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Unveiling the Complexity of ESG Ratings

Challenges and Insights for Sustainable Investing

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A mio fratello Ambrogio,
la stella polare che ha sempre guidato il mio cammino.
Ai miei genitori Eleonora e Stefano,
le radici forti che hanno nutrito il mio sogno con sacrificio e dedizione.
A mia nonna Anna,
il sole che ha illuminato le mie giornate con il suo affetto incondizionato.

Abstract

L'importanza della sostenibilità e dei temi ambientali nell'ambito dell'investimento responsabile sta assumendo un ruolo sempre più rilevante, stimolando l'esplorazione del ruolo della finanza e degli investitori in questo settore. In particolare, i provider di rating ambientali, sociali e di governance (ESG) stanno emergendo come attori principali, simili alle agenzie di rating del credito, per le questioni ambientali, sociali e di governance all'interno di questo mercato. Questi provider si presentano in due forme: entità più piccole e specializzate con sede nell'UE e controparti più grandi, non appartenenti all'UE, che offrono servizi più estesi. Tuttavia, la mancanza di consenso sulla definizione dei rating ESG ha favorito la proliferazione di punteggi disparati e contrastanti, complicando la capacità degli investitori di distinguere le imprese sostenibili da quelle non sostenibili. Questa tesi approfondisce l'evoluzione del concetto di stakeholder e l'influenza crescente degli investitori e degli attori economici nel passaggio alla finanza sostenibile e agli investimenti ESG. In particolare, sviluppa uno studio empirico sullo Stoxx Europe 200 Large Price Index, analizzando i punteggi ESG di quattro diversi provider: Bloomberg, Refinitiv, S&P Global e Sustainalytics. Lo studio conferma una sostanziale eterogeneità dei punteggi e una correlazione minima, inducendo gli investitori ad assicurarsi che i rating ESG siano in linea con i loro valori per costruire portafogli che riflettano le loro prospettive ESG. Questa situazione sottolinea l'importanza della standardizzazione per consentire decisioni di investimento consapevoli: i provider di rating dovrebbero adottare approcci coerenti e rigorosi nella valutazione delle metriche ESG per armonizzare le valutazioni con gli ideali e gli obiettivi degli investitori.

Abstract

The significance of sustainability and environmentally sensitive themes in responsible investing is gaining prominence, prompting exploration into the roles of finance and investors in this domain. Notably, Environmental, Social, and Governance (ESG) rating providers are emerging as pivotal players akin to credit rating agencies for environmental, social, and governance issues within this market. These providers manifest in two forms: smaller, specialized EU-based entities and larger, non-EU counterparts offering broader services. However, the lack of consensus on ESG rating definitions has fostered a proliferation of disparate and conflicting scores, complicating investors' ability to discern sustainable from unsustainable entities. This thesis delves into the evolution of stakeholder concepts and the expanding influence of investors and economic actors in the shift towards sustainable finance and ESG investing. In particular, it develops an empirical study on the Stoxx Europe 200 Large Price Index, scrutinizing ESG scores from four distinct providers: Bloomberg, Refinitiv, S&P Global, and Sustainalytics. This study confirms substantial score disparities and minimal correlation, leading investors to make sure ESG ratings align with their values to construct portfolios reflecting their ESG perspectives. This situation underscores the imperative for standardization to empower informed investment decisions: rating providers should adopt consistent, rigorous approaches in evaluating ESG metrics to harmonize ratings with investors' ideals and objectives.

Contents

Introduction

In my thesis, I deal with the theme of sustainable finance, shedding light on the increasingly important role that environmental, social, and governance (ESG) factors are acquiring in the realm of investments. As Refinitiv (LSEG Data & Analytics) [2] rightly points out:

"In today's world of globalization and interdependence and in times of financial crisis, issues such as climate change, biodiversity, human rights, 'license to operate', business ethics and corporate governance are at the forefront of public and political attention. How companies respond to these issues is becoming as important as traditional financial metrics when evaluating corporate performance, therefore playing a more central role in investors' decision-making efforts to identify long-term opportunities and risks for companies".

This statement is confirmed by some relevant statistics. The ESG market has experienced exponential growth, reaching an impressive $41 trillion by the end of 2022, as investors increasingly consider non-financial factors when making investment decisions. According to Bloomberg Intelligence, the total assets under management in ESG-related funds have grown from $22.8 trillion in 2016, and it is estimated that ESG-related investments will surpass $50 trillion by 2025 [52] (Figure 1). Specifically, Europe leads the way in ESG investing, with 83% of the total ESG assets under management, amounting to over $2 trillion. This represents a significant increase from previous years, as European investors have become more focused on ESG factors in their investment approach. According to a Capital Group report, 31% of European investors consider ESG
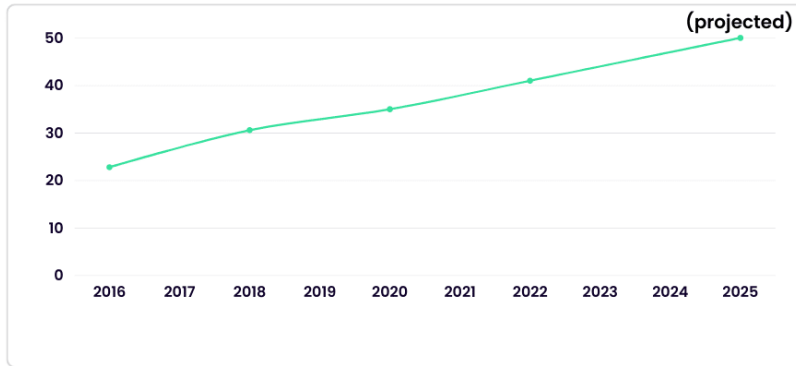
Figure 1: Total global ESG assets, USD trillions (Source: Bloomberg Intelligence) [52].

to be a central aspect of their investment strategy, compared to just 18% of investors in North America. In the fourth quarter of 2022 alone, Europe saw $40 billion of capital inflows in ESG funds, while the US experienced $6.2 billion of outflows. Notably, only 6% of investors in Europe remain skeptical about ESG investing, compared to 20% of investors in North America [52] (Figure 2).

The opening chapter sets the stage by elucidating the historical development of sustainable finance and the crucial part played by companies and investors in fostering a greener and more sustainable world, hinting at the evolution of stakeholders. It emphasizes the importance of aligning financial investments with models that minimize adverse effects on the environment while maximizing positive impacts on society. In this chapter's second part, I will examine the timeline of policy making in the sustainable finance framework. I will emphasize the crucial stages that brought forth comprehensive and transparent regulations on sustainable investments. The ultimate aim of these enhanced laws is to create a more reliable and understandable investment realm, protecting investors from greenwashing practices and ensuring the integrity of sustainable finance initiatives.

Building on the foundation laid in the first chapter, Chapter 2 focuses on the significance of ESG criteria in driving sustainable investments. It highlights the growing influence of investors and companies in shaping a more sustainable future, stressing the need for informed decision-making based on environmental, social, and governance
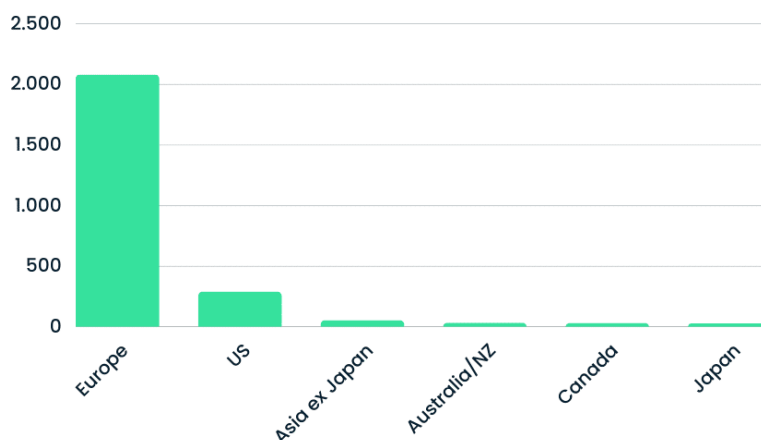
Figure 2: Global ESG assets under management, by region, USD billions (2022) (Source: bankrate.com) [52].

aspects. The chapter also discusses the evolution of ESG rating providers' market (in particular, the process of consolidation it went thorugh over the last few years), and the role of these agencies in guiding investors towards responsible investment choices. Later, providers will be categorized on the basis of their methodologies for scoring: the main goal of this process is to emphasise the significant challenges posed by these ratings' broad divergence. Finally, I will examine some methodologies of four selected providers (Bloomberg, Refinitiv, S&P Global, and Sustainalytics), dividing the discussion into what I consider to be four fundamental themes to describe and understand each methodology: overview and principles; data process, coverage, and update; scores overview and structure; scores calculation methodology.

In the empirical analysis presented in the third chapter, my thesis scrutinizes the methodologies employed by ESG rating agencies to evaluate companies. By comparing ESG scores from various providers, the chapter aims to demonstrate the variations and challenges investors face when interpreting and utilizing these scores for investment decisions. The first section is dedicated to the description of the index upon which I will carry out my analysis, the Stoxx Europe Large 200 Price Index, comprising 200 companies of the Stoxx Europe 600 Price Index that are characterised by a large-capitalization. Then, through a comparative analysis of ESG scores from Bloomberg, Refinitiv, S&P

Global, and Sustainalytics, the chapter will shed light on the complexities of ESG ratings dispersion and its implications for investors.

By navigating through these chapters, readers are invited to explore the intricate landscape of sustainable finance, ESG considerations, and the evolving role of investors in driving positive change towards a more sustainable and responsible future.

Chapter 1

Foundations of Sustainable Finance

The objective of this chapter is to provide a framework for ESG criteria and the emergence of the concept of Sustainable Finance. We will see how, throughout different eras, companies and investors assume an increasingly central role in creating a greener and more sustainable world.

1.1 The Origins of Sustainable Finance

1.1.1 Positive and negative externalities

Public opinion is paying increasing attention to environmental and social issues: as Beltratti rightly points out [4], "financial investments are an activity of central importance in the overall signal-generating mechanism that aims to steer the management of companies towards models" that minimise the negative effects of their operations (such as, for example, pollution), and maximise "positive impacts on society".

In this context, I think that it is crucial to mention the concept of externality: "externalities generated by the operation of economic activity, [...] have always been at the centre of academic debate" [4]. We are used to identifying two categories of externalities:

- *Positive externalities*, which occur when there is a benefit for society: for example,

Research and Development (R&D) carried out by a company can "increase the general level of knowledge within a society" [35];

- *Negative externalities*, which happen when the result is a cost for society as a whole: a clear example of this is the quality of water drunk by people living near a river polluted by a factory's production [4].

What can companies do to manage negative externalities?

This topic has always been at the centre of academic debate, long before we might think. Milton Friedman (an American economist, leading exponent of the Chicago School and founder of the Monetarist thought), in an article published in The New York Times in 1970, sets out his thoughts on the subject [31]. The article casts doubt on the very concept of "corporate social responsibility", identifying it as a threat to the basis of a free society. Friedman makes fun of the sweet promises of businessmen, who solemnly talk about the social responsibilities of corporations to the sound of the orchestral anthem. After all, in fact, they preach socialism. Only people can have responsibilities, while corporate executives have an obligation to their owners or shareholders. The author does not stop at the level of platitudes but, on the contrary, asks practical questions. How can the executive know which actions will benefit society? How, therefore, can he decide what to spend on, and what to charge for his social responsibility? The author ends the article by stating that the only real social responsibility of the corporation in a free society is to give profits to the shareholders. It is the power of public policy and regulation that must establish the rules of altruism and charity.

What Friedman outlines in his article is a concept of the enterprise as "*ownership*", i.e. as an isolated entity whose sole responsibility is to act in the interests of the shareholders. Charles Handy (an Irish author and philosopher specialising in organisational behaviour and management) had a completely different opinion on this matter: he suggested that this concept of the enterprise as "ownership" should be dismissed (as a remnant of the 19th century) in favour of a more contemporary one, which perceives

the enterprise as *"social entity"* [32]: indeed, in the 21st century, companies interact with the economic and social environment in which they operate. Therefore, we must consider the overall framework of relationships and the vast network of partnerships that the company builds while conducting its business. According to Handy, thinking that "the purpose behind the existence of a company is mere profit is [...] a tragic element of confusion" [32].

These two opposite ways of identifying a company lead us to reflect upon two crucial subject matters: the evolution of the concept of stakeholders, and the notion of Corporate Social Responsibility (CSR).

1.1.2 The concept of Stakeholders

The definition of "stakeholder" has evolved over time to encompass a broader range of individuals with any type of interest in the company and its activity. Initially, stakeholders may have only included customers and suppliers, but now companies also need to consider the interests of their employees, shareholders, financiers, and even society as a whole and future generations. Clayton [9] tries to give the simplest definition of stakeholders: "A stakeholder can be an individual or a group, with the word 'anyone' inviting us to draw our net as widely as possible. And any interest means that they can be interested in what you are doing, how you are doing it or its outcome." He explains that the word "stakeholder" first appeared in The Oxford English Dictionary in 1708, meaning "the holder of a wager", and identifies eight phases of the evolution of the concept. The history of stakeholders traces back to the early 18th century, when a similar concept originated in the gambling culture; later on, it became a crucial element of contemporary management practices. In the late 19th century, the primacy of shareholders dominated business thinking, but in the 1940s managers were perceived as trustees, whose sole task was to balance the interests of different communities. The formal acknowledgement of the term "stakeholder" emerged in the early 1960s, and Igor Ansoff included stakeholding into corporate strategy in the late 1960s. The stakeholder
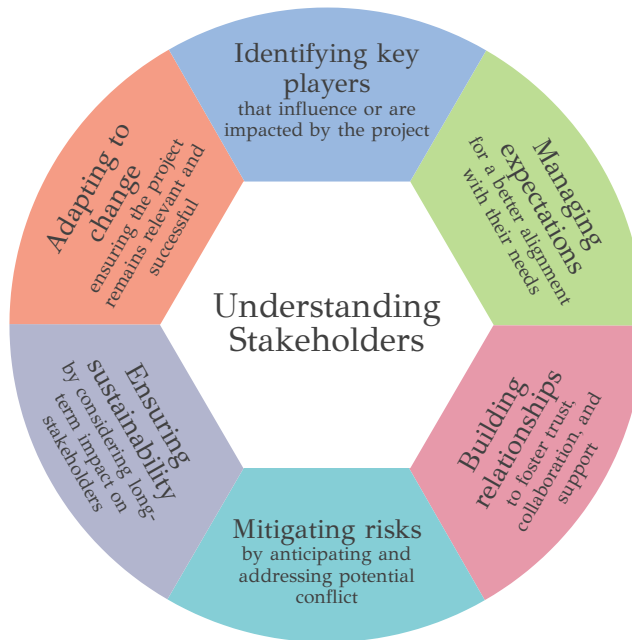
Figure 1.1: Six benefits that understanding stakeholders brings to the firm's business [9], own elaboration.

theory emerged in the early 1980s with Robert Edward Freeman, who emphasized the need to consider a range of stakeholders in corporate decision-making. The concept of "stakeholder economics" was introduced by Prime Minister Tony Blair in the mid-1990s: he pointed out the relevance of stakeholders in the social and economic spheres. In the 2010s, Stakeholder Engagement emerged as a business discipline, stressing the need for companies to actively engage stakeholders for long-term success.

The message that the article wants to convey is that *understanding stakeholders* is fundamental for strategic decision-making as it creates a collaborative and inclusive approach to project management, leading to better outcomes and stakeholder satisfaction. In Figure 1.1, I have summarized some of the benefits that learning about stakeholders brings to the firm's business.

1.1.3 Corporate Social Responsibility

Corporate Social Responsibility (CSR) is defined by the European Commission [51] as follows:

"Corporate social responsibility is essentially a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment. [...]

Although the prime responsibility of a company is generating profits, companies can at the same time contribute to social and environmental objectives, through integrating corporate social responsibility as a strategic investment into their core business strategy, their management instruments and their operations."

From these few lines, we can already see an evolution in thinking concerning the idea of social responsibility of firms towards society: the main obligation of companies remains that of generating profits, but the European Commission emphasises that it is essential to recognise CSR as directly linked to the creation of economic value.

Traditionally, we can identify four categories of CSR [46]:

- *Environmental* responsibility, which can be pursued by companies in several ways, such as reducing harmful practices, regulating energy consumption, offsetting negative environmental impact;

- *Ethical* responsibility, which makes sure that an entreprise is acting in "a fair and ethical manner" [46], safeguarding the equal treatment of all stakeholders;

- *Philanthropic* responsibility, which is concerned with the broader goal of a company of making the world a better place to live in;

- *Economic* responsibility, which is "the practice of a firm backing all of its financial decisions in its commitment to do good" [46].

Responsible Business Conduct

The concept of Corporate Social Responsibility (CSR) is closely linked to that of Responsible Business Conduct (RBC). The term was first defined by the Organization for Economic Co-operation and Development (OECD) as "making a positive contribution to economic, environmental and social progress with a view to achieving sustainable
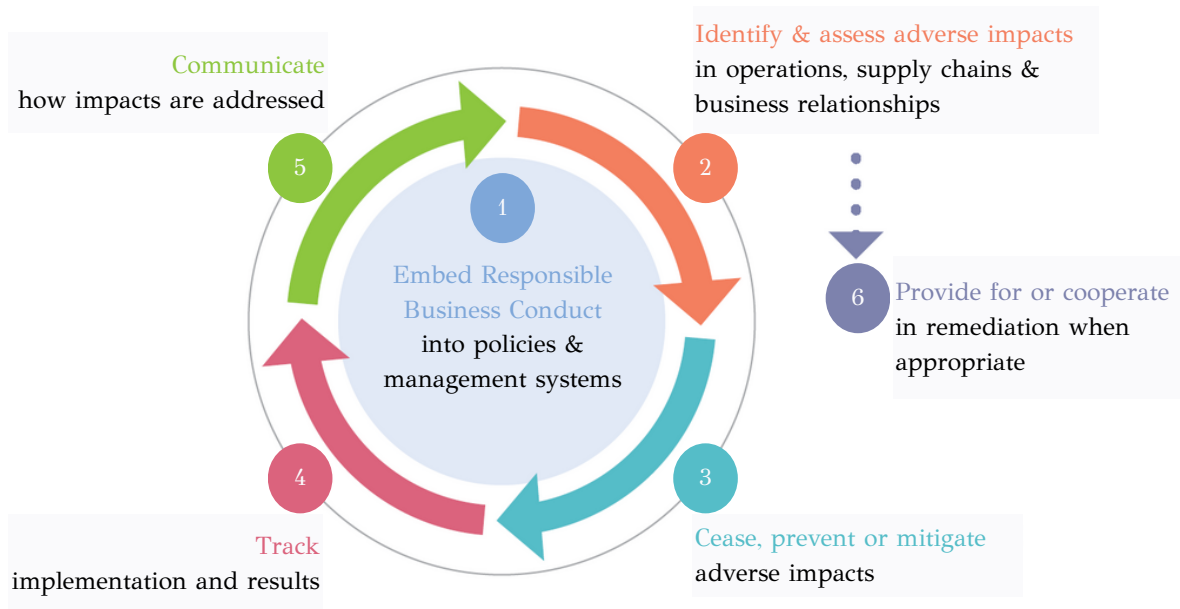
Figure 1.2: Due Diligence Process & Supporting Measures [41].

development and avoiding and addressing adverse impacts related to an enterprise's direct and indirect operations, products or services" [10].

RBC is the first stage of Due Diligence (also known as "supply chain responsibility"), which is defined by the OECD Guidelines as "a continuous process to help enterprises identify risks relating to human rights, labour rights and the environment with a view to ending, preventing or mitigating those risks" [41]. So, due diligence is an ongoing series of actions to accomplish a precise goal: "avoid causing or contributing to adverse impacts on people, the environment and society, and to seek to prevent adverse impacts directly linked to operations, products or services through business relationships" [41]. When these harmful effects cannot be avoided, firms should use due diligence to have the necessary tools to reduce them. The due diligence process is made up of six stages, which are represented in Figure 1.2.

Why are Corporate Social Responsibility and Responsible Business Conduct important? [10]

- For firms, because they "provide important benefits in terms of risk manage-

ment, cost savings, access to capital, customer relationships, HR management, sustainability of operations, ability to innovate and eventually profit" [10];

- For the European Union economy, which becomes more sustainable thanks to more innovative and green companies;

- For society as a whole, that grows into an increasingly connected community on the basis of which "the transition to a sustainable economic system" [10] is feasible.

Business and Human Rights

Since we mentioned the existence of the Ethical sphere of Corporate Social Responsibility, we must briefly address the role of human rights in business. Nowadays, companies are global, and they impact human rights wherever and however they operate [3]. The UN defines human rights as follows:

"Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more. Everyone is entitled to these rights, without discrimination" [40].

Companies often operate in poor or post-conflict countries, or even in countries where the local government is incapable or unwilling to enforce its own laws [3]. As a consequence, it is challenging to determine who is responsible for preventing companies from violating human rights. To answer this question, in 2011, the United Nations issued a set of principles (The UN Guiding Principles on Business and Human Rights – UNGPs) that define the responsibilities of governments and businesses. These principles were included by the European Union in its 2015 and 2020 action plans on human rights and democracy [10].

The 31 Guiding Principles are based on three pillars, which are summarised in Figure 1.3.

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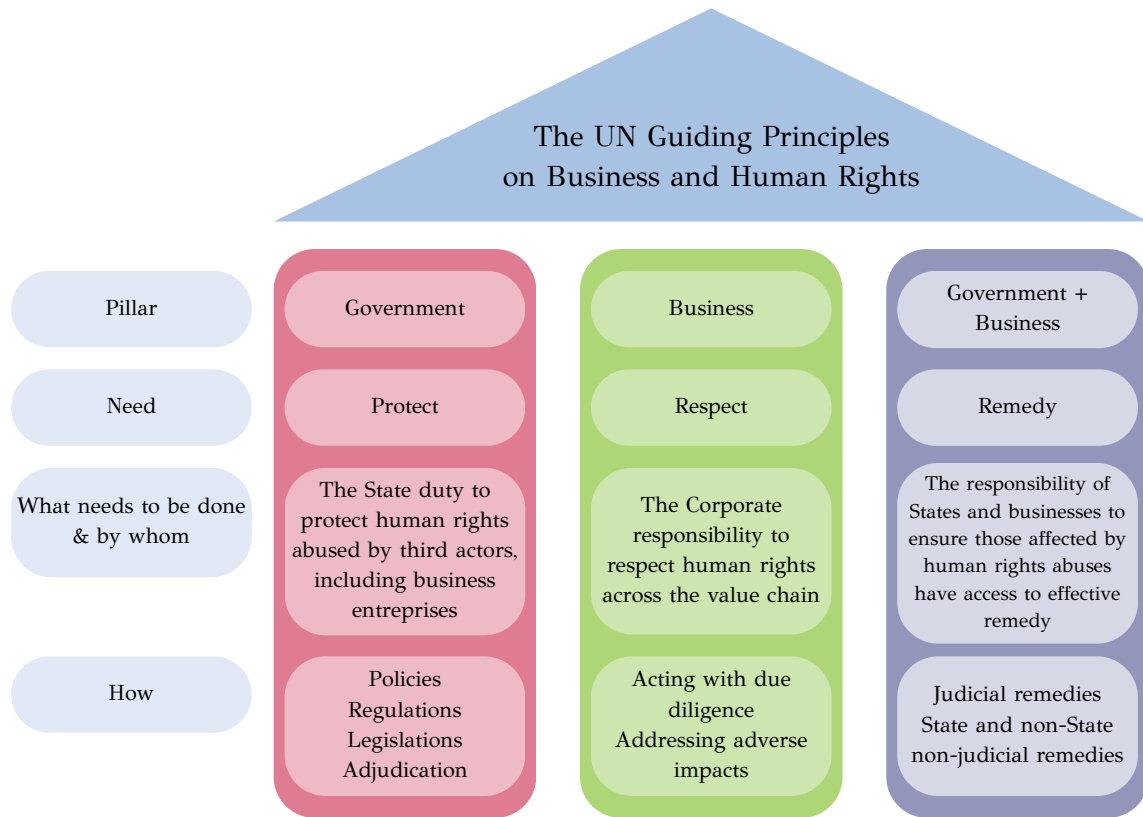
Figure 1.3: UN Guiding Principles on Business and Human Rights - schematic overview [17], [47], own elaboration.

1.1.4 SRI/ESG Investing

Financial investors became an increasingly important component of the community [4]: through impact investing, these economic actors can support companies and organizations that promote social innovation, wellness, and environmental responsibility, or divest from those that carry out practices contradicting their beliefs [42]. In the 1960s and 1970s, the concept of *Socially Responsible Investing* (SRI) was developed as people began to consider the non-monetary impacts of their choices [4]. In particular, in 1971, we witnessed the creation of the Pax World Fund, the first public mutual fund in the United States to consider social and environmental criteria in investment decisions [36]. This was one of the earliest examples of SRI, but it would take decades before we would see such actions "formalised into specific rules and practices" [36]. This would

eventually lead to the birth of the framework now known as Environmental, Social, and Governance (ESG). We could therefore define ESG investing as an enhancement, a sort of refinement and maturation of SRI. However, the former term does not replace the latter: as Beltratti makes clear, "one way of understanding the coexistence and complementarity of SRI and ESG is to consider SRI as a way of using ESG factors within investment strategies, though mainly in such a way as to exclude those securities that are considered most harmful to the community" [4].

1.2 The Sustainable Finance Framework

1.2.1 What is Sustainable Finance?

As we will see, ESG investing is an important part of the Sustainable Finance Framework. Sustainability is a complex topic with multiple legislative interventions along the way. These regulations ask companies to provide evidence regarding environmental and social matters, in order to be monitored and to be in line with the requirements set by the European Commission. Sustainability challenges are becoming more and more a subject of academic and corporate attention, specifically from a European standpoint, since Europe is becoming a frontrunner with regard to environmental, social, and corporate governance policies.

According to the European Commission [11], "Sustainable Finance refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects".

Considering the Environmental Pillar, we can include the factors of mitigating and adapting to climate change, preserving biodiversity, preventing pollution, and promoting a circular economy. The Social aspects may include problems of inequality, inclusivity, employment relationships, investing in people and their skills, communities, and human rights concerns. Truly, well-managed public and private institutions must incor-

porate social and environmental considerations in their decision-making processes by implementing regulations on management structures, personnel relations, and executive compensation. The EU Sustainable Finance Framework includes six pillars:

- *Corporate disclosure of climate-related information*: Corporations should provide more transparent emissions, practices, and climate-related information to assist investors and promote environmentally friendly actions.

- *EU labels for benchmarks (climate, ESG) and benchmarks' ESG disclosures*: these sustainable finance indices evaluate the ESG performance of a company or benchmark against a set of criteria.

- *Sustainability-related disclosure in the financial services sector*: banking and investment sector entities are required to declare how sustainable their investments are. They must specify the proportion of their sustainable investments, as well as the effect of these on the environment and society.

- *EU taxonomy for sustainable activities*: these criteria define environmentally friendly economic activities and aim to steer investors' funds towards them.

- *European green bond standard*: green bonds require issuers to follow specific rules to fund environmentally friendly projects and prove that the money will be used for sustainable purposes.

- *International Platform on Sustainable Finance*: this is an international organization that gathers policymakers, financial institutions, and stakeholders to share knowledge and develop best practices for sustainable finance.

All these tools make it possible to conduct evaluations of a company that do not strictly relate to their financial performance (clues of which can be found in the documents that make up the company's financial report such as the Balance Sheet, the Income Statement and the Cash Flow Statement). Instead, these analyses consider the company's commitments related to environmental, social, and good governance issues. Why is

this important for *investors*? The availability of these data allows economic actors to make informed choices and build a more sustainable future. Moreover, whenever we talk about "sustainability", another aspect comes into play: the long-term perspective. Indeed, investors do not usually stop at the creation of a short-term value, but they are interested in the company's future growth.

1.2.2 Policy making timeline

When talking about ESG and sustainable finance, it is always important to take a close look at legislation, which is complex and constantly evolving. The following sections will highlight key milestones that have shaped the ESG landscape and the development of sustainable finance, providing a clearer understanding of their origins and progression.

Non-Financial Reporting Directive - NFRD

The starting point of this journey can be traced back to 2014 with the Directive 2014/95/EU, which is also known as the Non-Financial Reporting Directive (NFRD) [25]. It requires public-interest entities (PIEs) with more than 500 employees to include non-financial statements in their annual reports: these accounts should cover environmental, social, and employee issues, respect for all human rights, and anti-corruption and bribery matters. Companies are asked to provide information on business models, policies, outcomes, main risks, and non-financial key performance indicators.

The first goal of NFRD is to enforce *transparency* and *accountability* by making sure that companies give relevant non-financial information in a standardized and comparable way. This directive will be revised in 2020, gathering the opinions of the various stakeholders to improve it on the basis of the issues that are most closely followed by the regulator and the market. The law emphasises the regulator's focus on environmental and social issues, with particular attention on the United Nations' Sustainable Development Goals (Figure 1.4), which seek to promote the achievement of greater equality in 2030. This is a new, broader dimension, to which all companies must refer.

Figure 1.4: The UN Sustainable Development Goals.

Figure 1.5: The UN Millennium Development Goals [54].

Before SDGs, in 2000, The United Nations proposed the Millennium Development Goals (MDGs) (Figure 1.5): "8 goals that UN Member States have agreed to try to achieve by the year 2015. [...] Each MDG has targets set for 2015 and indicators to monitor progress from 1990 levels" [53]. The main goal focuses on the 5 Ps:

- People: the wellbeing of people;

- Planet: protection of Earth's ecosystems;

- Prosperity: continued economic and technological growth;

- Peace: securing peace;

- Partnership: improving international cooperation.

Companies need to move closer to these types of goals.

Paris Agreement

Another fundamental milestone was without a doubt the 2015 Paris Agreement [22]. The main goal of the treaty is intended to help limit the Earth's warming to well below 2 degrees Celsius above pre-industrial levels, as well as reaching out for the lower level of 1.5 degrees Celsius. Countries must indicate their country-specific quantitative level of emissions reduction to be achieved in a long-term perspective and keep revising it at regular times. Moreover, the agreement stresses the financial and technological support to enable developing countries to implement the necessary measures to reduce and cope with the impacts of climate change [22].

European Action Plan

The 2018 European Action Plan is the result of the work of 20 experts who make up the "High-Level Expert Group on Sustainable Finance" (HLEG) and who have generated a series of policy recommendations on sustainable finance. As we read from the European Commission website: "The action plan set out a comprehensive strategy to further connect finance with sustainability" [21]. The ten key actions include:

- establishing (at the European level) a unified system (taxonomy) of activities;

- creating certifications and standards for sustainable financial products (e.g. green bonds);

- promoting investments in sustainable projects (infrastructure);

- integrating sustainability into the provision of investment advice (e.g. by amend-

ing MiFID II[1] and IDD[2] and European Securities and Markets Authority - ESMA - guidelines);

- developing new sustainability indices and increasing transparency in the construction of benchmarks;

- improving the integration of sustainability metrics into ratings and analyst reports;

- clarifying the obligations of institutional investors and managers regarding sustainability criteria;

- integrating sustainability into prudential requirements;

- strengthening communication on sustainability and the development of accounting standards;

- promoting long-term sustainable corporate governance.

These actions can be divided into three categories, as shown in Figure 1.6.

Sustainable Financial Disclosure Regulation - SFDR

The Sustainable Finance Disclosure Regulation (SFDR), also known as Regulation 2019/2088 of the European Parliament [28], plays a crucial role in promoting sustainability within the financial services industry in Europe. It sets out transparency

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[1]This acronym stands for "Markets in Financial Instruments Directive II" (Directive 2014/65/EU) is aimed at harmonizing regulatory standards across the EU to ensure increased market transparency and to promote competition in financial markets. If these goals already represented the cornerstones of the MiFID (Directive 2004/39/EC), the provisions of this new standard include the enhancement of investor protection. As we read in the document of the European Parliament, "In recent years more investors have become active in the financial markets and are offered an even more complex wide-ranging set of services and instruments. In view of those developments the legal framework of the Union should encompass the full range of investor-oriented activities" [24].

[2]The "Insurance Distribution Directive" (Directive (EU) 2016/97) intends to harmonise national provisions concerning how insurance products are designed and distributed in the EU [26].
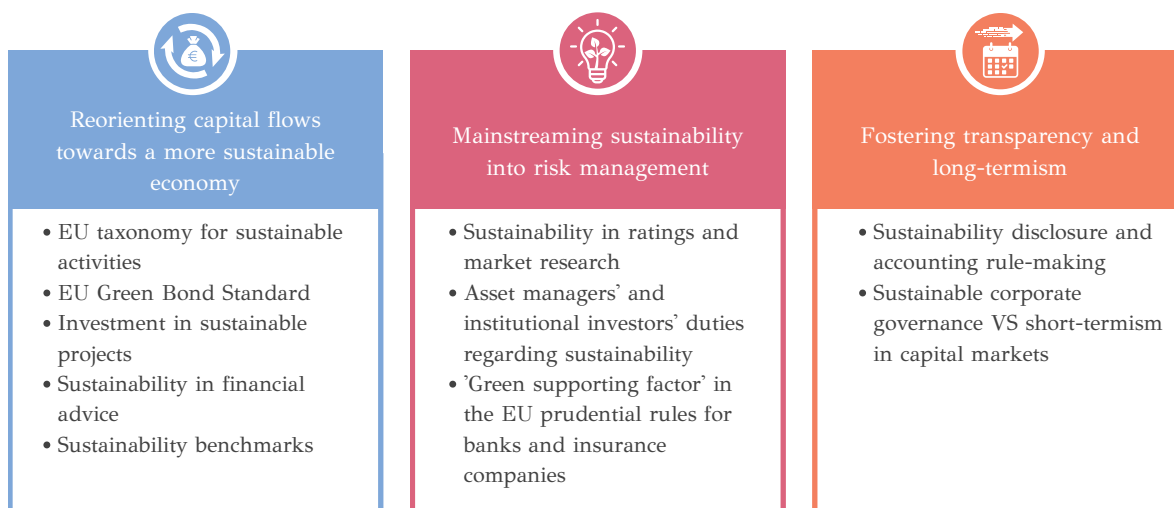
Figure 1.6: Ten key actions of the European Action Plan divided into three categories [21], own elaboration.

requirements for companies offering or advising on products in the EU concerning non-ESG aspects. The regulation categorizes financial products into three groups (Figure 1.7):

- *Article 9* refers to investments with a sustainable investment objective;

- *Article 8* concerns investments considering social and/or environmental criteria;

- *Article 6* indicates investments that do not have a sustainable investment objective nor consider ESG criteria.

SFDR's prime objective is to strengthen transparency on ESG issues within the EU and make it easier to compare financial products, ultimately contributing to sustainable finance practices.

So, the SFDR introduces a differentiation, that represents an opportunity for financial products to have a label and be recognised as "green". Investments labelled as *Article 9* generate a strong social and environmental impact: firms that own these types of instruments are social enterprises, which support minorities and less privileged areas. This classification can be used as a litmus test to analyze a company, understanding how it is engaging with sustainability-related issues. Moreover, thanks to this
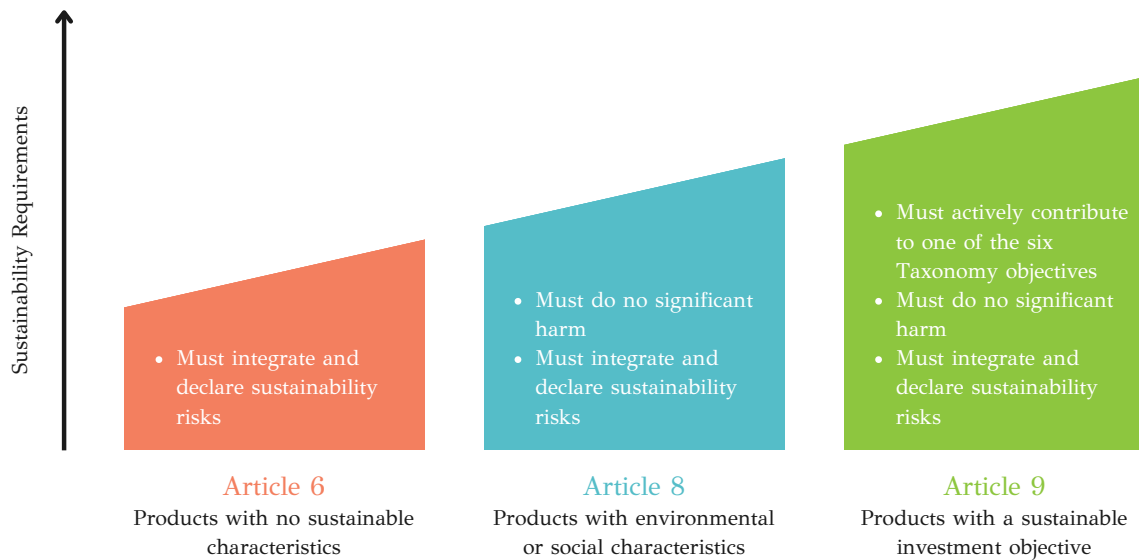
Figure 1.7: Financial product classification in SFDR [8], own elaboration.

tool, fund managers are able to isolate and select certain equities, building mutual funds to achieve specific ESG goals. In September 2023, there was a revision of the SFDR that had the aim of gathering the views of practitioners on the relevant issues of the Regulation, after the first period of application, including all the insights provided by the Taxonomy Regulation, which added further useful elements for grading financial products according to the labels. In late 2023, the "Final Report on draft Regulatory Technical Standards on the review of PAI and financial product disclosures in the SFDR Delegated Regulation" was published. The SFDR is agreeable at the level of objectives, but the creation of a notable amount of provisions in such a short time made it difficult for firms to metabolise the requirements of the European Union.

European Green Deal

Launched in 2019, the European Green Deal [20] represents a key pillar of the EU's strategy for economic growth as it transitions to a more sustainable and environmentally friendly model. The European Commission presented a comprehensive strategy and policy framework aimed at sustaining the EU economy for the long term. The agreement outlines plans to achieve climate neutrality by 2050, reduce greenhouse gas emissions

Figure 1.8: The main actions of the European Green Deal [15], own elaboration.

by at least 55% by 2030 (compared to the 1990 levels), decarbonize the energy sector, promote sustainable agriculture, and preserve biodiversity. It also includes measures to boost the circular economy and make the EU a leader in clean digital technologies. Other actions that are going to be implemented are represented in Figure 1.8. On 10 and 11 December 2020, EU leaders met in Brussels to draw conclusions on the EU's long-term budget for 2021-2027, and on other relevant topics, including the Covid 19 pandemic and the Next Generation EU. When referring to the goals that are expected to be achieved with the European Green Deal, Ursula von der Leyen stated: "Today's agreement [...] gives certainty to investors, to businesses, to public authorities, and to citizens. It future-proofs our Union" [20]. The emphasis that the President of the European Commission placed on the figure of investors confirms, once again, how these agents are becoming fundamental not only in the economic context, but also in the social one, as they assume the role of frontline actors in creating a more sustainable European Union.

Taxonomy Regulation

The Regulation 2020/852, also known as the Taxonomy Regulation, was initially proposed as part of the European Action Plan on Sustainable Finance, and was adopted in June 2020. It was established to facilitate sustainable investments in the European Union, putting emphasis on the importance for the Union's actions to work hand-in-hand with the 2030 Agenda's Sustainable Development Goals (SDGs), crucial in the context of sustainable growth [29].

The Taxonomy is an EU-wide shared classification that sorts economic activities in accordance with their degree of sustainability. The Regulation defines six environmental objectives:

- climate change mitigation;

- climate change adaptation;

- the sustainable use and protection of water and marine resources;

- the transition to a circular economy;

- pollution prevention and control;

- the protection and restoration of biodiversity and ecosystems.

The European Commission is also required to elaborate Technical Screening Criteria (TSC), which "define the specific requirements and thresholds for an activity to be considered as significantly contributing to a sustainability objective" [18]. These TSCs are elaborated in secondary legislation, called Delegated Acts (DAs). The document highlights the importance of providing consistent criteria that allow one to determine whether a specific economic activity is contributing to that objective. A fundamental principle introduced by this regulation is the Do No Significant Harm (DNSH) principle, clarified as follows.

"One element of the uniform criteria should be to avoid significant harm to any of the environmental objectives set out in this Regulation. This is in order to avoid

that investments qualify as environmentally sustainable in cases where the economic activities benefitting from those investments cause harm to the environment to an extent that outweighs their contribution to an environmental objective. Such criteria should take into account the life cycle of the products and services provided by that economic activity in addition to the environmental impact of the economic activity itself, including taking into account evidence from existing life-cycle assessments, in particular by considering their production, use and end of life" [29].
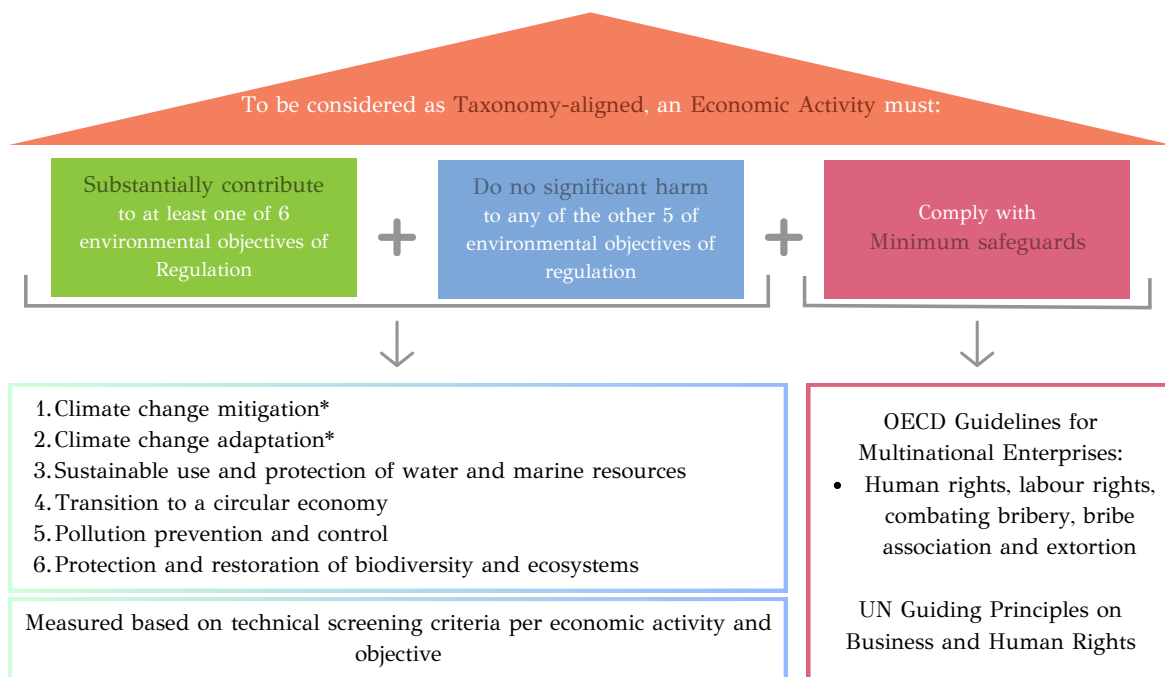
While the Taxonomy is primarily a classification tool, it entails other purposes [18]. The disclosure obligations in this Regulation supplement and amend the rules on sustainability-related disclosures in the EU's NFRD and SFDR, with the goal of improving transparency and providing investors with tools to evaluate sustainable investments [29]. National requirements for marketing financial products should align with the criteria proposed by the Regulation (in order to avoid market fragmentation and protect investors' interests). National competent authorities are empowered to verify compliance with disclosure obligations, must make sure the marketing of financial products aligns with the criteria proposed by the Regulation, and have the power to intervene on misleading practices or sustainability-related information.

In Figure 1.9, we can see a summary of the EU Taxonomy Regulation.

Corporate Sustainability Reporting Directive (CSRD)

If we look at the last steps forward that have been taken by the European Commission, we can see that an attempt is being made to respond to the issue of "greenwashing[3]". The issue at stake regards finding ways to limit the attempt of some companies or financial products to show themselves as "green" when they are not. A step in this direction was taken with the introduction of the SFRD classification, and since then the analysis of data has been of great help. Many asset management companies had

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[3] "The act of providing the public or investors with misleading or outright false information about the environmental impact of a company's products and operations" [33].

To be considered as Taxonomy-aligned, an Economic Activity must:

| Substantially contribute to at least one of 6 environmental objectives of Regulation | + | Do no significant harm to any of the other 5 of environmental objectives of regulation | + | Comply with Minimum safeguards |

1. Climate change mitigation*
2. Climate change adaptation*
3. Sustainable use and protection of water and marine resources
4. Transition to a circular economy
5. Pollution prevention and control
6. Protection and restoration of biodiversity and ecosystems

Measured based on technical screening criteria per economic activity and objective

OECD Guidelines for Multinational Enterprises:
- Human rights, labour rights, combating bribery, bribe association and extortion

UN Guiding Principles on Business and Human Rights

*These two objectives were published in December 2021, and are applicable since January 2022. The others were defined in March 2022

Figure 1.9: Criteria according to which an economic activity is considered compliant [12], own elaboration.

to scale back instruments classified as Article 8 as something that was Article 6, since there was no compliance with the criteria that was stated.

Another fundamental law in this context is the Corporate Sustainability Reporting Directive (CSRD, or Directive (EU) 2022/2464), which was proposed in 2021 but came into force on January 1, 2023 (it was then applied on January 1, 2024). Its leading goal is to strengthen the reporting requirements for social and environmental information and to expand the scope of reporting: it includes a broader set of large companies and listed Small and Medium Enterprises (SMEs) [27]. The Directive aims at increasing transparency in the financial market, making sure investors and stakeholders can access essential information to evaluate how a company impacts society and the environment, taking into consideration the financial risks and opportunities arising from several sustainability issues. Companies that are subject to the CSRD are required to report according to the European Sustainability Reporting Standards (ESRS). The Directive also introduces the concept of "double materiality", requiring enterprises to provide in-

Figure 1.10: European Sustainability Reporting Standards [6], own elaboration.

formation about the impacts of their activities on people and the environment (*impact materiality*) and how sustainability matters affect the firm itself (*financial materiality*). It mandates assurance on the sustainability information that companies report and provides for the digital taxonomy of sustainability information.

European Sustainability Reporting Standards (ESRS)

In July 2023, the EU Commission adopted the delegated act with the first set of European Sustainability Reporting Standards (ESRS) [23]: these principles have been approved and apply from January 1, 2024, as required by the CSRD. As reported in the cited document [23], the objective of ESRS is to indicate the sustainability information that all companies shall disclose about "their material impacts, risks and opportunities in relation to environmental, social, and governance sustainability matters" [23]. In all ESRS, the term "impacts" takes into account both positive and negative actual impacts and potential future impacts connected to a firm's business. These are identified
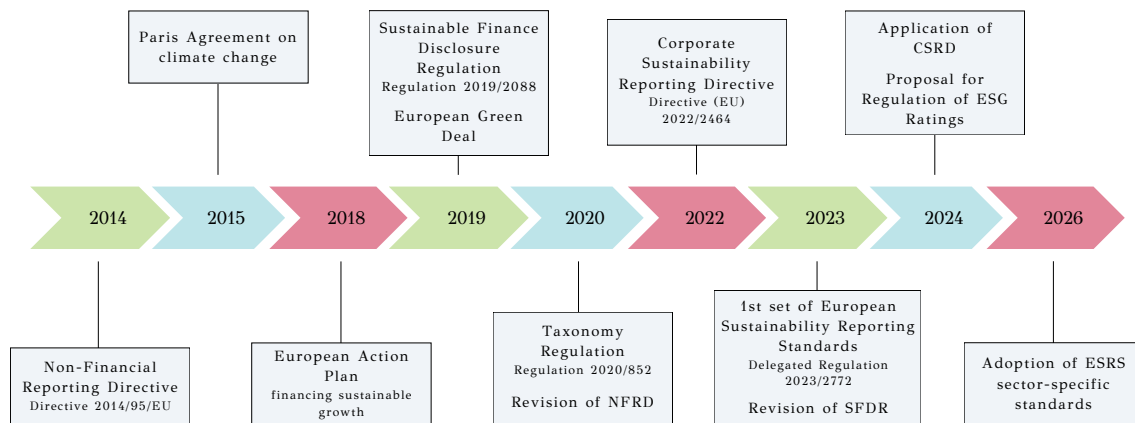
Figure 1.11: Simplified representation of the EU Sustainable Finance timeline, own elaboration.

through an impact materiality assessment [23]. The term "risks and opportunities" indicates the financial risks and opportunities that are linked to sustainability topics: these are identified through a financial materiality assessment [23]. The ESRS cover a wide range of issues related to sustainability, such as climate change (ESRS E1), biodiversity and ecosystems (ESRS E4), own workforce (ESRS S1), affected communities (ESRS S3), and business conduct (ESRS G1). They are all summarised in Figure 1.10. There are three categories of ESRS: cross-cutting standards; topical standards (Environmental, Social and Governance standards); and sector-specific standards [23]. The first two categories are known as "sector-agnostic", which means they apply to every company, regardless of the sector or sectors in which it operates. The latter are currently under development and are expected to be adopted by June 2026, giving more time to the European Financial Reporting Advisory Group (EFRAG) to elaborate new requirements that will highlight the long-term impact on ESG opportunities and risks. The main aim of ESRS is to provide investors (and other stakeholders) with valuable information to assess the sustainability impact of the companies they invest in, in order for them to make more informed investment decisions and build a more sustainable future.

Figure 1.11 gives a simplified representation of the EU Sustainable Finance timeline.

1.3 Classification Scheme for Sustainable Investments

As we said in the subsection 1.2.1, the concept of Sustainable Finance refers to the application of Environmental, Social, and Governance criteria to investment decisions and, more generally, to all processes that characterise the financial sector. ESG factors have brought about a historic change of direction for the financial universe, involving the concept of stakeholder: these aspects are added to the duties of investment profitability, affecting all areas of finance.

The White Paper published by the European Sustainable Investment Forum (Eurosif) illustrates a classification for sustainable investments. It is intended to "develop a future standard for SRI/ESG related market reports" [7]. The authors point out that this is not a definitive approach, but rather a starting point for elaborating clearer and more complete classification standards. The paper begins by questioning what we actually mean with the term "sustainable investment": different regulatory approaches, such as the SFDR or the MiFID II, propose definitions which may include investments whose active support for the transition to a more sustainable economy is not clear. This fact highlights "the need for a new classification scheme for sustainable investments that has the notion of *transition* at the core of its logic" [7].

1.3.1 Criteria defining the categories

The criteria that are used to define the categories of sustainable investments are summarised in Figure 1.12:

- *General characteristics* explain how much an investment actively operates in order to make the economy more sustainable. The ambition level, the main objective, and the focus on double materiality point out the differences in investments based on their commitment to sustainability.

- *Pre-investment strategies* include approaches that are used before making an investment. These include:

- Exclusions: regards the exclusion of companies whose activities are linked to certain controversial sectors, such as the sale and production of arms, tobacco, alcohol, animal testing, and nuclear energy;

- Norms-based screening: allows to select companies that comply with international norms and standards (e.g. OECD, UN, UNICEF) in terms of environmental protection, human rights, labour standards, and anti-corruption principles;

- ESG integration: a strategy that consists of integrating considerations of ESG risks and opportunities into traditional financial analyses;

- Best-in-Class / Best-in-Universe / Best-in-Progress: allows the selection of companies with the highest ESG score within a group of investees (an industry or a universe). Investees can be selected based on their improvement regarding specific ESG criteria.

- Sustainability-themed: relates to the investment in sustainable topics such as the environment, climate change, ecology or energy efficiency.

- *Post-investment strategies* deal with actions taken after making an investment. Thanks to these approaches, investors become guideposts for companies, allowing them to build a positive relationship that should lead to better corporate governance and more sustainable business models. These encompass:

  - Engagement: it can be defined as "a long-term process to influence behaviour of current (potential) investees through interaction with investors (or engagement service providers)" [7];

  - Voting: similar to engagement, but in this case the influence is based on ownership rights through voting of shares and other proxies.

- *Performance measurement* aims at assessing how well sustainable investments perform. They usually focus on the effectiveness of investments in achieving sustainability goals.
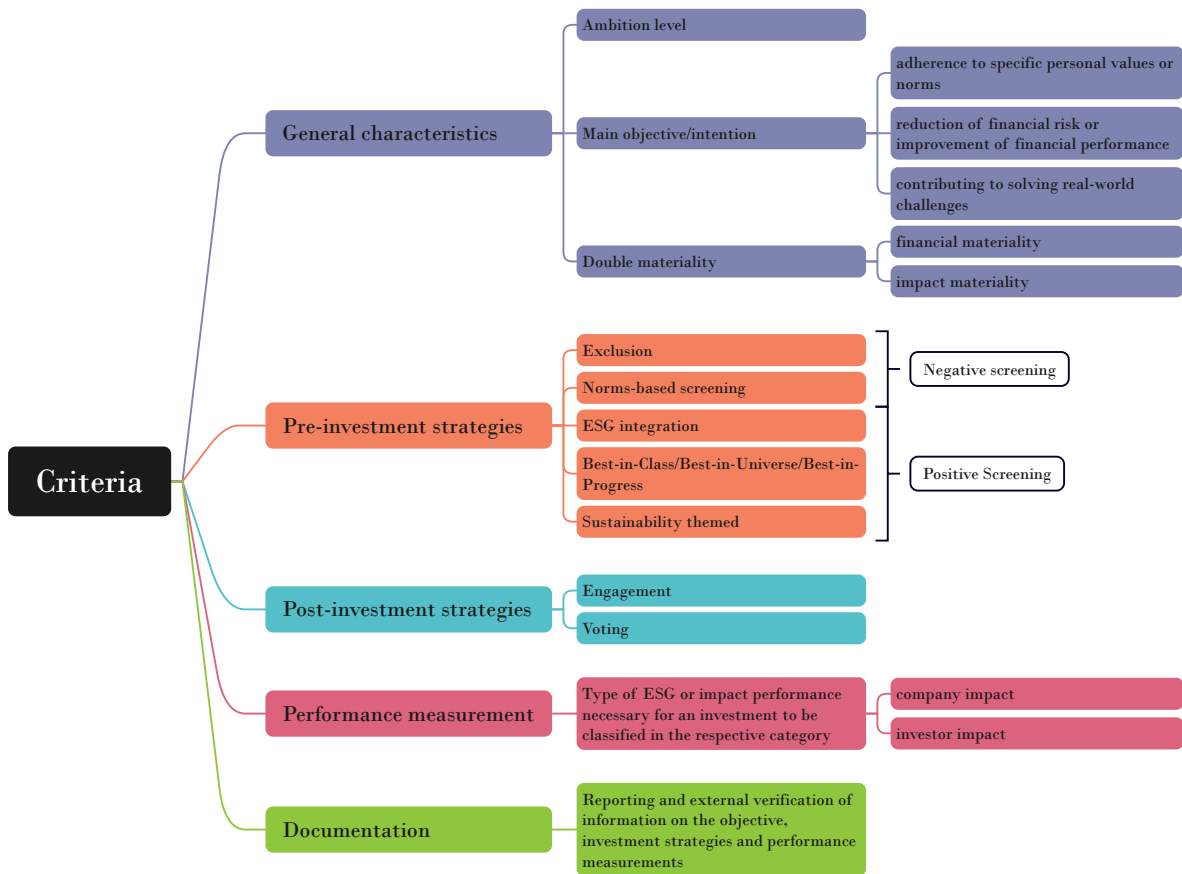
Figure 1.12: Criteria defining the categories [7], own elaboration.

- *Documentation* involves constructing clear reports including information about sustainable investments. It stresses clear descriptions, outside verification, and disclosure to ensure trustworthy sustainable investment practices.

1.3.2 Five investment categories

Based on these elements, the paper describes five investment categories:

- *Exclusion-focused investments* have as their primary objective the alignment of portfolios with individual values or norms, and do not include the consideration of financial or double materiality. Because of their low ambition to contribute to a sustainable transition, they are not classified as sustainable investments. They

make use of negative pre-investment strategies to build portfolios that respect specific convictions (e.g., no production of alcohol or tobacco). In this case, performance measurements refer to the violation of values and norms.

- *Basic ESG investments* aim at addressing ESG risks and display a moderate level of ambition, as evidence for a positive impact remains speculative. They encompass the examination of the aspects regarding financial materiality, and they use both negative and positive screenings in pre-investment strategies: the formers are used, for example, to exclude from an investor's portfolio businesses involved in the production of fossil fuels, or CO_2-intensive industries; the latter can be applied to analyze the financially material ESG risks. The performance measurements happens through ESG Key Performance Indicators (KPI) or ESG ratings, while documentation includes disclosing the investment objective and at least one ESG-KPI.

- *Advanced ESG investments* take a step further by managing ESG risks and opportunities, focusing on financial materiality issues and demonstrating a medium ambition level towards sustainable transition. In contrast to the Basic ESG investments, they apply stricter rules for positive screening through ESG integration (that is binding), and use post-investment strategies like engaging or voting to collect data and support research. The performance measurement makes use of indicators like ESG-KPIs, Possible Adverse Impacts (PAIs), and ESG ratings. Documentation regards the investment objective and includes a detailed description of pre- and post-investment strategies.

- *Impact-aligned investments* stand out for their medium ambition level, and their primary goal is to address environmental and social challenges, using double materiality in their analyses. They implement both negative and positive screening, as well as post-investment strategies, in order to intervene on environmental and social issues and, at the same time, support research and improve disclosure. The performance measurement captures the company impact, and makes it easier to

identify investees with positive effects. Documentation aims at providing information about the investment objective and the pre- and post-investment approaches that were carried out. Additionally, these reports must include clues about "the positive impact generated by investees and the monitoring process" [7].

- *Impact-generating investments* are characterised by a strong commitment to actively contribute to solving real-world challenges of social and/or environmental nature, showing a high ambition level and a focus on double materiality. Pre-investment strategies refer to the process of capital allocation as a "mechanism of investor impact to positively influence the impacts of investeees" [7]. Post-investment strategies are mainly used as tools for "investor impact with a clear transition objective" [7]. The performance measurement captures generated ecological and social impacts on company and investor impact. Differently from Impact-aligned investments, their objective is to "actively change investees' impacts through investor activities" [7]. Documentation for this type of investment also needs to provide information about the positive impact brought about by investees and the investor itself and needs to report more than one KPI.

This classification system presents a clear understanding of sustainable investing. It includes different ways and levels of commitment within the sustainable finance scenery, starting from basic risk control to getting involved in a proactive way in sustainable transitions. In the conclusions of the paper, the authors state that the aim of this classification is to "illustrate how investments accelerate the just and sustainable transition of the real economy. As such, it captures the transition contribution of different investment approaches" [7].

In this chapter, we have explored the emergence and development of the concept of Sustainable Finance and ESG investing, as well as the growing significance that this area of economics has gained over the years. Investors and companies have increasingly significant impacts on society as a whole, and they are becoming key players in the effort to build a more sustainable future. But how can investors determine the best

companies to invest in, considering environmental, social, and governance aspects? What information should they seek and who should they rely on? This will be the theme of the next chapter, that will concern ESG rating providers and their scoring methodologies.

Chapter 2

ESG Ratings and Providers

In Chapter 1, we discussed the origins of Sustainable Finance and ESG investing. The classification framework presented by Eurosif provides a starting point for identifying and categorizing sustainable investments according to their contribution to sustainable transition. Now, we have to ask ourselves a fundamental question: How can investors concretely know which companies are better to support and which ones should be avoided? What key elements should be considered? After describing the role of ESG rating agencies and the market structure of these entities, we will analyze the calculation methodologies of four providers. This will give us a better understanding of the challenges associated with the existence of discrepancies in ESG ratings.

2.1 Definitions and overview

2.1.1 Credit Ratings and ESG Ratings

In the contemporary investment landscape, the Environmental, Social, and Governance ratings have proved themselves as one of the most indispensable tools for investors who intend to evaluate the sustainability and ethical operations of a company. This way,

ESG Rating Agencies[1] (or Sustainable Rating Agencies) act as Credit Rating Agencies[2] (CRAs), which evaluate the creditworthiness of corporations, yet their assessment covers the areas of environmental performance, social impact, and corporate governance practices, among many others. There is actually no common or official definition of ESG rating, but we can take as a reference this broad definition: "ESG rating means an opinion regarding an entity, issuer, or debt security's impact on or exposure to ESG factors, alignment with international climatic agreements or sustainability characteristics, issued using a defined ranking system of rating categories" [43]. Similarly to the way conventional investors would depend on credit ratings to measure the default risk of a firm, bringing ESG criteria has the effect of making investors consider factors other than financial metrics. Credit ratings to a large extent look at financial risks, but ESG ratings are much more multi-faceted, reflecting the awareness that environmental and social factors can be very important for a company's long-term financial results. ESG ratings serve as a tool for investors to implement ESG-focused investment strategies. They provide insight into a company's financial health as well as its environmental and social impact. This information helps investors make informed decisions that align with their values and preferences.

Although Credit Ratings and ESG Ratings are both useful tools for investors and other economic actors, there are some differences between them. These divergences are presented in the European Securities and Markets Authority (ESMA) Report on Trends, Risks and Vulnerabilities [30]:

- *Nature of Assessment*: Credit Ratings evaluate an entity or instrument's creditworthiness based on a ranking system, with analyst input and potential qualitative factors. ESG Ratings express opinions about an entity's impact on ESG factors,

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[1]The most famous ones, among others, are V.E, MSCI, Morningstar Sustainalytics, ISS, and Robeco.

[2]The most famous ones we can recall are S&P Global, Moody's, and Fitch Ratings. We can define a credit rating as a "quantified assessment of a borrower's creditworthiness in general terms or with respect to a particular debt or financial obligation" [34].

sustainability alignment, and adherence to international climate agreements; they may not clearly differentiate between ratings and scores[3] and rely on qualitative input due to data limitations.

- *Payment Model*: Historically, Credit Ratings follow the issuer-pays model, where the entity that is being rated pays for the assessment. On the other hand, ESG Ratings typically follow the investor-pays model, where investors pay based on desired product and data access levels.

- *Coverage and Pillars*: Credit Ratings mainly focus on assessing credit risk and likelihood of default for entities or instruments, while ESG Ratings encompass three main pillars - environmental, social, and governance - which are aggregated into a single ESG score for a comprehensive sustainability assessment.

- *Methodologies and Data*: Credit Ratings often utilize financial metrics and historical performance data to evaluate credit risk. On the contrary, ESG ratings incorporate a broader range of nonfinancial metrics related to environmental, social, and governance practices to evaluate sustainability performance.

2.1.2 Types of ESG Ratings

Based on the definitions given by different providers, ESMA identifies two categories of ESG Ratings [30]:

- *ESG risk ratings* measure the exposure of companies to ESG risks and how these risks are addressed. This is the most common form of ESG ratings, and examples of it include MSCI, Sustainalytics, S&P, and FTSE Russell.

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[3]There is a difference between Credit Ratings and Credit Scores. Credit Ratings are typically based on more qualitative analysis and expert judgment, whereas Credit Scores are often data-driven and rely on statistical models to determine creditworthiness. Both methods serve to assess credit risk, but differ with respect to the level of subjectivity involved in the analysis and the extent of the assessment [30].

- *ESG impact ratings* measure the impact of firms on ESG factors. This category includes rating providers such as Refinitiv, Moody's, ECPI, Sensefolio, and Inrate.

Given that risk ratings and impact ratings are based on similar methodologies and metrics, the dividing line between them may be subtle. Moreover, depending on the goals of the providers, ESG ratings can also be backward-looking or forward-looking. Most ESG ratings are used for corporate issuers, although some providers also rate local governments or countries.

Diversified alternative products are available, from those concentrating on the quantity of data reported by a company (Bloomberg) to those considering the influence of ESG issues on a firm's credit rating (Fitch Ratings). Although such alternative products may not meet conventional ESG rating criteria, they are still able to point out substantial ESG risks that can affect a firm's valuation or viability. Moreover, several ratings focus on some of the three pillars of ESG: this multitude of ratings indicates the diverse range of needs from different client types and ways the information is conveyed. Many asset managers appreciate this diversity, although there is widespread support for greater standardization and transparency in ESG ratings.

2.2 ESG Rating Providers

2.2.1 The role of ESG Rating Agencies

As we mentioned in Section 2.1.1, over the past decade, there has been significant growth in the field of SRI. A variety of economic actors, including investors, shareholders, governments, and firms, are now seeking detailed information that extends beyond just the financial performance of companies: indeed, they are also interested in aspects related to the environment and society, and these have become "part of their competitive strategy" [19]. By using their own research methodologies, ESG rating agencies analyze companies and collect data to evaluate the sustainability performance of an entity. The expertise of these providers has become a primary point of reference for businesses,

financial markets, and academia, leading to significant growth in the sustainability rating market.

Another important consequence regards the role that ESG rating agencies assume: in particular, they no longer act just as economic actors, but they become *social actors* in the true meaning of the word, since they "have an impact on the behaviour of other social actors in society" [19]. This observation has a fundamental corollary: the trust that society has in companies and rating agencies is greatly influenced by the information these entities make publicly available, so is essential for this information to be accurate and not misleading. Additionally, it is important for society's expectations regarding sustainability and sustainable development to be aligned.

2.2.2   ESG Rating Agency Industry

If this is our starting point, we must ask ourselves if ESG rating providers are truly helping to create a more sustainable world. As we said in Section 2.1.1, there is no official definition of ESG ratings, making it difficult to determine the criteria for an organization to be considered an ESG rating agency [30]. As a consequence, it is hard to estimate the total number of companies active in the market for ESG ratings. Some studies from 2019 and 2020 found around 125-150 ESG rating providers, including 10 to 15 major ones [30]. Considering a broader market, in 2022 Deloitte estimated that there were more than 600 ESG rating agencies, "often issuing different ratings concerning the same entity" [16].

2022 ESMA's Call for Evidence

In order to gain a better understanding of the present structure of the market for ESG rating providers in the European Union, ESMA issued a Call for Evidence in February 2022, and presented the findings in a letter to the European Commission in June 2022. The call for evidence entailed three parts [43]:

- The first part searched for data directly from ESG rating providers in order to de-

velop an awareness of some specific features such as the legal status, the ownership structure, the level of resourcing, and the business model.

- The second part was aimed at gathering information from entities using ESG rating products to determine, on the one hand, "the nature of engagement with ESG rating providers" [43] and, on the other hand, "the characteristics of any contractual arrangements" [43].

- The third and last part is dedicated to entities that are covered (or rated) by ESG rating providers: this has the goal of learning more about the nature of the interaction with ESG providers and any related cost.

The responses from these three categories of actors provide us with a reliable overview of the main characteristics of the market.

Overview of Findings

The call for evidence received a total of 154 responses from the three categories under investigation. According to the information provided by these actors, the document indicates that there are 59 active ESG rating providers in the European Union, and highlights some key features of the market.

Firstly, the architecture of the industry is divided between a small number of very big non-EU entities and a large number of considerably smaller EU entities (which can be characterised as Small and Medium Enterprises). As stated in the letter, the legal entities of the respondents were distributed among almost half of the member states, but a considerable number of these were bundled only in three member states, as shown in Figure 2.1: Germany, Italy, and France. The predominant business model is investor-pays, but a third of the respondent providers indicated the issuer-pays model as more prevalent for the provision of ESG ratings.

Secondly, the larger part of users of ESG ratings negotiate for these products from several providers at the same time: of the 34 respondents to this question, 77% claimed
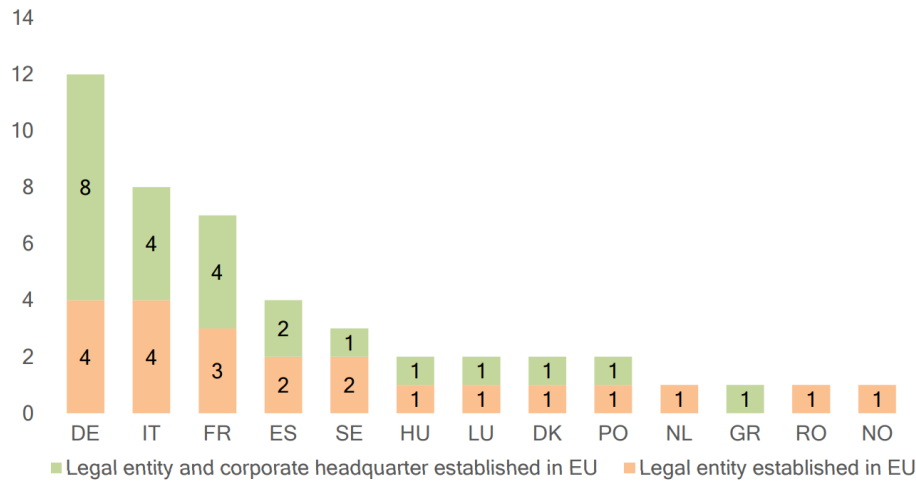
Figure 2.1: Number of respondents with one or more legal entity in EU or with headquarters in the EU, by country [43].

to rely on more than one provider. The reasons for this choice are mainly to "increase coverage, either by asset class or geographically, or in order to receive different types of ESG assessments" [43]. The most frequently cited ESG rating providers were MSCI (28 mentions), Morningstar/Sustainalytics (25), and ISS (24). This is represented in Figure 2.2. Figure 2.3 displays the estimated investment value for ESG providers based on the usage of their product. There is a certain degree of concentration in the market, as the majority of users contract with a small number of the same rating providers. The most frequent drawbacks recognised by users were "a lack of coverage of a specific industry or a type of entity and insufficient granularity of data" [43], along with "complexity and lack of transparency around methodologies" [43] used by ESG rating providers.

Lastly, entities that are subject to ESG ratings allocate resources to interact with ESG rating providers, with the level of resources depending largely on the size of the rated entity. For what concerns the provision of the ESG rating for their company, these providers were mentioned: MSCI (41 mentions), Moody's/VE (33), ISS (31), Morningstar/Sustainalytics (24), CDP (22), S&P (20), FTSE-Russell (16) and Ecovadis (12). These data are shown in Figure 2.4. However, most respondents noted some limits in their interactions with the rating providers, particularly in terms of transparency
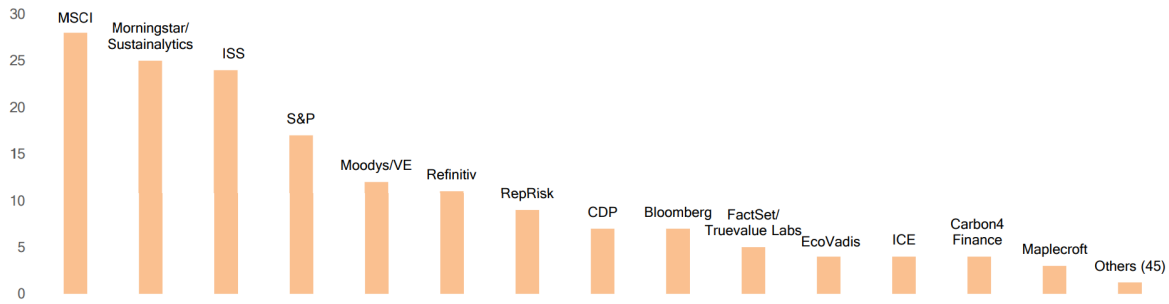
Figure 2.2: ESG providers used by respondents (users of ESG ratings), by count of mentioning [43].
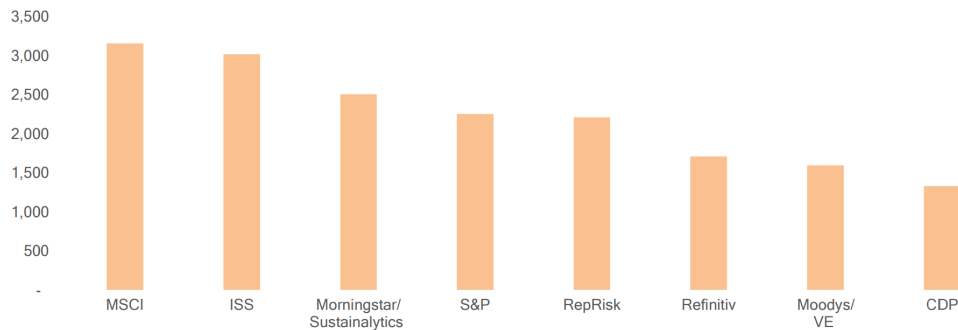
Figure 2.3: ESG providers by estimated investment value for which their product is being used, in EUR bn. Providers below a value of EUR 1 trillion have been excluded for visual purposes [43].

regarding the basis for the rating, "the timing of feedback or the correction of errors" [43].

Conclusions

According to the last section of the document, the market structure for ESG rating providers is similar to the existing structure for credit ratings. This means that smaller, more specialized entities from the EU coexist with larger, non-EU entities that offer a more comprehensive range of services. Although the market for ESG rating and data providers is still relatively new, it is growing and has taken this shape after several years of consolidation, a process that will be described in Section 2.2.3.
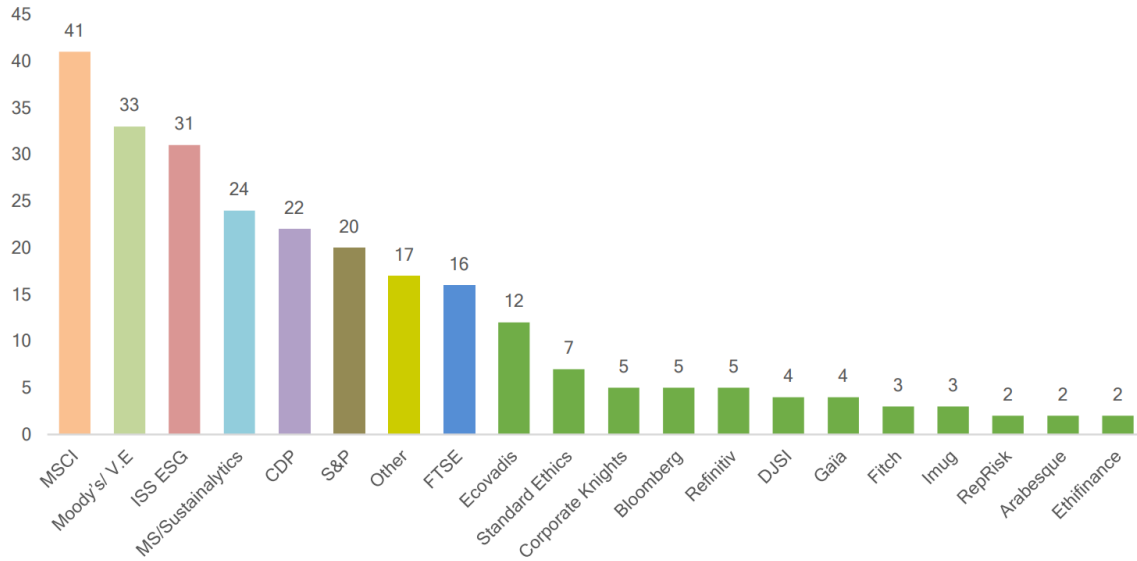
Figure 2.4: Number of covered entities mentioning ESG rating providers (based on 37 responses) [43].

2.2.3 The process of consolidation

In recent years, the industry has undergone a significant consolidation [30]. This has taken place not only through mergers and acquisitions, but also through the entry of new financial rating and information provider agencies [19]. In particular, we notice that this concentration process has occurred from 2008 (with the financial crisis, which "brought about a positive shift in capital market perceptions and attitudes towards corporate sustainability" [19]) to 2018. This process is shown in Figure 2.5 and Figure 2.6.

The main incentives for this growth tend to be financial stakeholders and investment decision-makers [19]. Through this process, ESG rating providers stopped being isolated economic actors to became part and parcel of the financial market. One important example of this was the case of Morgan Stanley Capital International (MSCI) [19]. The company has grown significantly through a series of acquisitions: in 2010, it acquired RiskMetrics Group, which had previously bought ISS, Innovest Strategic Value Advisors, and Kinder Lydenberg Domini (KLD) Research & Analytics. MSCI continued to

Figure 2.5: The environmental, social and governance (ESG) rating agencies market concentration (1) [19], own elaboration.

Figure 2.6: The environmental, social and governance (ESG) rating agencies market concentration (2) [19], own elaboration.

Figure 2.7: Companies face a crowded and confusing landscape of 600+ ratings and rankings [38].

expand by acquiring MeasureRisk in 2010, Governance Holdings Co. (GMI Ratings) in 2014, and InvestorForce in 2013. This evolution shows how the firm has become a crucial provider of ESG data for institutional investors, with its ESG Research arm supplying the data used to construct the MSCI ESG Indices. In more recent years, we can consider some other industry trends which can, however, always be traced back to processes of concentration. Major players like S&P and Moody's acquired, respectively, the ESG rating arms of RobecoSAM (January 2020) and Vigeo-Eiris (April 2019). Other deals were ISS buying Oekom Research (2018), Morningstar getting Sustainalytics (two phases: 2017, 2020), and the London Stock Exchange Group purchasing Beyond Ratings in 2019 and Refinitiv in late 2021. A 2020 study from the Autorité des Marchés Financiers (AMF) notes thirty ESG-related mergers and acquisitions since 2009 [30]. Figure 2.7 provides an up-to-date overview of the ESG ratings providers industry.

These examples illustrate how a large number of agencies have emerged, while others have disappeared from the market (most frequently taken over by a competitor) [19]. It is possible to observe two distinct strategies [19]:

- *organic growth and partnerships*, establishing a network of alliances;

- *mergers and acquisitions*, that allow two or more ESG rating providers to combine (e.g., Vigeo-Eiris merger in 2016), or when "financial data providers and assessment managers decide to enter into the ESG rating industry " [19].

Sustainability is a multidimensional concept, and the consolidation process of the ESG rating agencies industry has enabled these actors to elaborate a more comprehensive evaluation of corporate sustainability. As Figure 2.5 and Figure 2.6 display, current ESG rating providers have "integrated specialized actors in corporate governance, data management, risk or communication into their systems" [19]. In addition, the market shift has led to the creation of diverse and professional teams that work across sectors and geographies.

2.2.4   ESG rating providers' Methodologies and Classification

Overview of Methodologies

Each ESG rating agency uses its own research and sustainability assessment methodology: these different approaches seem to be correlated "to a market-led strategy of differentiation and to cultural and ideological factors" [19]. The larger part of ESG ratings relies on publicly available data (e.g., corporate reports and disclosure), and some providers collect information directly from companies through interviews and questionnaires [30]. Although these evaluation processes are widely varying, some recurring measurement aspects are always taken into account [19]:

- the categories regarding environmental, social, and governance aspects, and the positive criteria included in each of them;

- the controversial practices and activities assessed;

- the normalisation process of the ratings by the industry.

Investors need to ensure that the ratings provider they rely on aligns with their ESG preferences, or else they may end up constructing portfolios that do not match their ESG views. The first crucial step in this process is to categorize the different types of providers accurately [37].

There is no clear-cut, universally accepted classification of ESG rating providers, since it is quite difficult to univocally identify the business in which each of these companies operates. I will present two different schemes: the first one was provided by ESMA in 2021, it divides ESG rating agencies into five groups, and can be seen as offering a broader perspective. The second one, presented by Li and Polychronopoulos in 2020, provides "a three-tiered framework that allows investors to better understand the different types of ESG ratings data" [37].

ESMA Classification

ESG rating providers can be broadly classified based on their core business area [30].
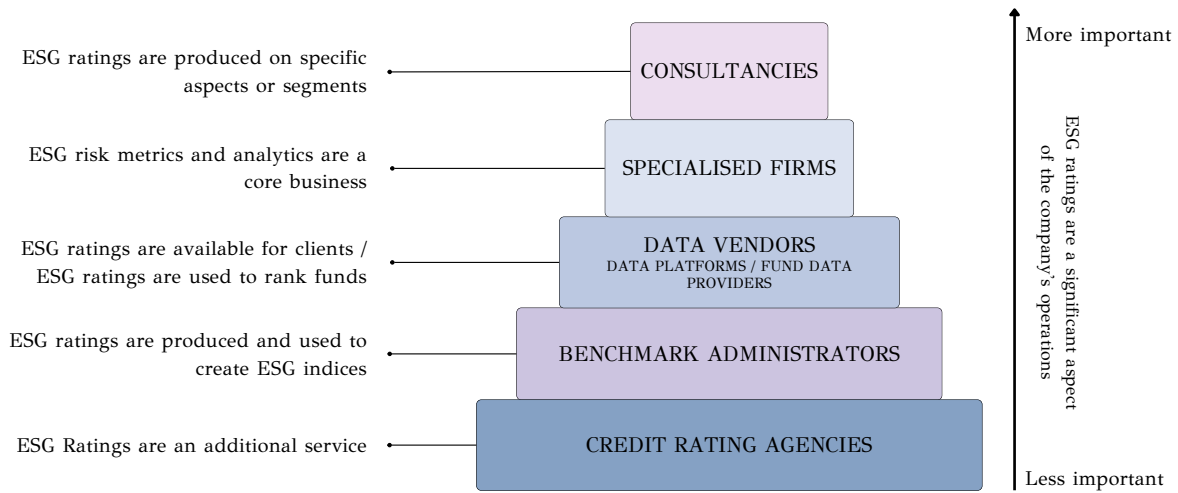
Figure 2.8: ESMA classification of ESG rating providers [30], own elaboration.

- *CRAs.* Several Credit Rating Agencies, including S&P, Moody's, and Fitch Ratings, have begun to offer ESG ratings alongside their traditional services to their clients.

- *Benchmark administrators.* Some index providers create ESG ratings to build ESG indices, such as MSCI and FTSE Russell.

- *Data vendors.* Data platforms such as Bloomberg and Refinitiv provide ESG ratings to clients, while fund data providers like Morningstar use these ratings to rank funds based on their portfolios.

- *Specialised firms.* There are some specialized firms whose business revolves around ESG risk metrics and analytics, such as RepRisk, Sensefolio, and EcoVadis SAS.

- *Consultancies.* Consultancy firms such as Apex Group and Mercer produce ESG ratings to inform investors on specific aspects or segments of the market, such as unlisted companies and fund investment strategies.

According to the article, large conglomerates are consolidating the market by offering a variety of financial data-related services, resulting in some overlapping between these categories. For example, ratings from MSCI and Morningstar Sustainalytics "serve as

input to both benchmark indices and fund ESG ratings" [30]. Figure 2.8 illustrates a simplified representation of this classification scheme. Alternatively, providers can be categorized by business model, distinguishing those focused on ESG-related products from those offering non-sustainability-related products.

Li and Polychronopoulos Classification

This classification standard presents three categories [37] (Figure 2.9):

- *Fundamental.* This category encompasses ESG data providers that gather and assemble publicly available data (derived from company filings or websites, and non-government organisations), and distribute this information to end users, who must assess the materiality of data and develop their own portfolio construction methodology. Examples of this are Refinitiv and Bloomberg.

- *Comprehensive.* This class includes providers that use a synthesis of objective and subjective data, covering all ESG market segments. These data providers usually create their own methodology to rate companies based on publicly available data and their own analysts' research. They use a variety of metrics across environmental, social, and governance issues and apply a systematic approach to calculate a company's overall ESG score. This score enables investors to assess a company's sustainability and ethical practices. To supplement their ratings, some companies extract data from public websites and newspapers, and assess controversies related to company-specific issues. They also provide trend reports for different countries and industries. Some of the comprehensive ESG rating providers are MSCI, Vigeo-Eiris, ISS, and RepRisk.

- *Specialist.* This section entails ESG data providers that focus on a specific ESG issue, "such as environmental/carbon scores, corporate governance, human rights, or gender diversity" [37]. These companies are helpful for investors who aim to deal with a particular subject. TruCost (now owned by S&P Global), the
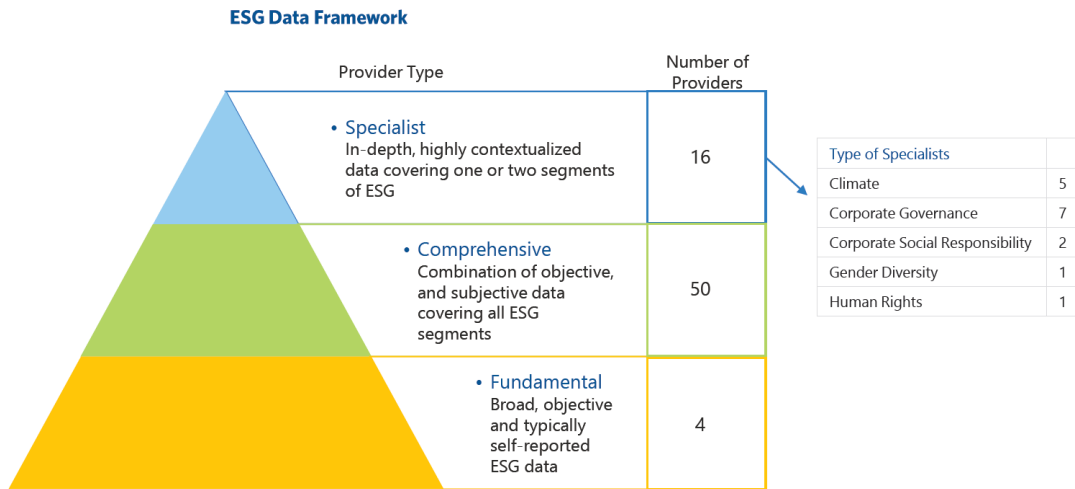
Figure 2.9: ESG Data Framework - at the time of writing, the authors identified 70 different firms that provide some sort of ESG ratings data. This figure "does not include the multitude of investment banks, government organizations, and research organizations that conduct ESG-related research that can be used to create customized ratings" [37].

nonprofit Carbon Disclosure Project (CDP), and Equileap (gender equality data) are some examples of such providers. Comprehensive providers of ESG data who acquire and maintain a vast amount of data can also offer specialised data to end-users.

The authors point out that most ESG rating providers fall under the comprehensive category. However, some companies specialize in providing ESG ratings for particular countries or regions. For instance, the Sustainable Investment Research Institute (SIRIS) offers ESG ratings for companies in the Asia Pacific region. In the specialist provider category, most of the rating providers concentrate on climate-related issues.

2.2.5 The challenges of different ESG ratings

The multitude of these rating agencies and the variety of their evaluation methodologies have brought some challenges to be addressed [19]:

- *Lack of transparency.* As we highlighted in Section 2.2.2, ESG rating agencies do

not provide complete and transparent information regarding their criteria for assessing a company's sustainability performance, making it difficult to understand and compare their evaluations.

- *Commensurability.* The lack of consistency between different ESG ratings is due to low commensurability, caused by varying measurement methods used by ESG rating agencies. This prevents the hypothesized benefits of CSR from occurring.

- *Trade-Offs among criteria.* ESG rating methodologies may balance higher scores in one domain with very low scores in another.

- *Lack of an overall score.* Most ESG rating agencies provide scores for each of the three pillars (environmental, social, and governance), but do not calculate an overall score for a company's sustainability performance.

- *Stakeholders' preferences.* ESG rating agencies fail to consider stakeholders' expectations in their assessment methodologies and therefore limit their usefulness and acceptance.

All of these issues contribute to a single overarching problem: it is common for ESG scores from different agencies to vary greatly for the same company. This creates confusion among investors and makes it difficult to interpret and compare the scores. The first point of confusion arises from the different methods providers use to evaluate a company's sustainability performance, as we will see in the following section. As we said in Section 2.1.1, there is no official definition of an ESG rating, which means that sustainability is defined in a subjective way. As a result, this leads to discrepancies in ESG scores. In a paper of 2022, Berg *et al.* [5] investigate the differences in ESG ratings provided by six prominent ESG rating agencies, namely, Kinder, Lydenberg, and Domini (KLD), Sustainalytics, Moody's ESG (Vigeo-Eiris), S&P Global (RobecoSAM), Refinitiv (Asset4), and MSCI. The researchers analyze the rating differences and categorize the methodologies used by each rating agency. They use a common taxonomy

of categories to decompose the discrepancy into three contributions: scope, measurement, and weight. This enables them to identify the three sources of discrepancy that contribute to the rating divergence:

- *Scope divergence* occurs when different rating agencies use different sets of attributes to rate entities, causing divergent ratings. For example, one provider "may include lobbying activities, while another might not" [5].

- *Measurement divergence* refers to a scenario where rating agencies assess the same characteristic using different criteria. For instance, a company's labor practices could be assessed based on factors such as "workforce turnover or the number of labor-related court cases" filed against them [5].

- *Weight divergence* emerges when rating agencies assign varying degrees of importance to different attributes. For instance, the final rating may give more weight to labor practices than to lobbying indicators.

The differences between two ESG ratings are difficult to interpret due to the intertwined contributions of scope, measurement, and weight divergence. Findings show that "measurement contributes 56% of the divergence, scope 38%, and weight 6%" [5].

In the last chapter of this thesis, a comparison of scores from different providers will be presented to highlight this discrepancy and dispersion. Therefore, investors need to understand which metrics are being assessed to select securities that meet their desired ESG criteria [37].

2.3   ESG ratings Methodologies

In this section, I will analyze in detail the methodologies of some ESG rating providers. While there are numerous methodologies available, I have chosen to focus on four key providers, as their approaches will be integral to the empirical analysis presented in Chapter 3, where the dispersion of ESG scores will be explored through a series of scatter plot graphics.

2.3.1 Refinitiv (LSEG Data & Analytics)

Overview and principles

The document *Environmental, social and governance scores from LSEG*, published in December 2023 [1], opens with the following statement:

"LSEG recognizes the increasingly critical importance of *transparent*, *accurate* and *comparable* environmental, social and governance (ESG) data and analytics for the financial industry. We strive to be the trusted and preferred partner in the *transition* to sustainable finance [...]".

From these first few lines we can see how Refinitiv (now LSEG Data & Analytics) wants to make an effort to close the characteristic gaps in ESG scores, which were highlighted in Section 2.2.5. In addition, the focus is intended to be maintained on the transition to sustainable finance, an aspect that was already highlighted with the Eurosif classification for ESG investments (Ref. Section 1.3). Another distinctive feature of this kind relates to the fact that scores are constructed to measure, in an *objective* way, "a company's relative ESG performance, commitment, and effectiveness" [1], based on information that is distributed by the company itself (company-reported data). The scores cover 10 main themes, including emissions, environmental product innovation, human rights, and shareholders, among others. This aspect of objectiveness attempts to solve the problem of subjectivity related to the world of sustainability in general, and ESG scores in particular. The scores for a company's ESG factors are determined by comparing its performance with other companies in the same sector (for environmental and social factors) and the same country of incorporation (for governance). LSEG does not impose a definition of what is considered 'good': the provider relies on the data to determine the relative performance of the industry based on their criteria and data model.

The calculation methodology displays some key principles:

- *Unique ESG magnitude (materiality) weightings have been included.* LSEG has assigned a materiality score of 1 to 10 for each ESG metric based on its significance
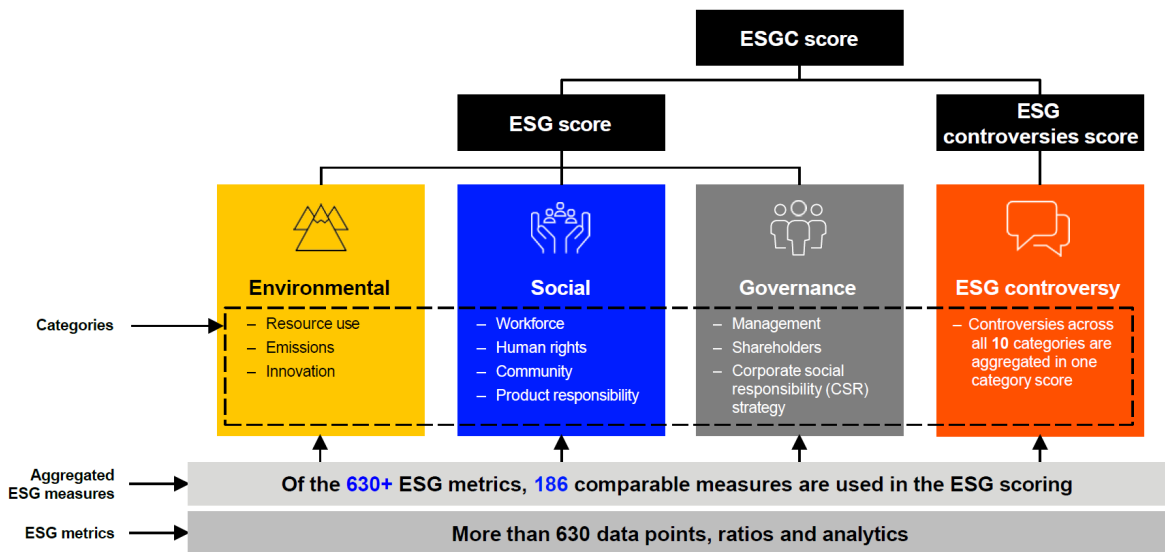
Figure 2.10: Refinitiv's ESG Data Framework [1].

across different industries.

- *Transparency stimulation.* Company disclosure is a vital aspect of this methodology. If a company reports "immaterial" data points, it won't significantly impact their score. However, failing to report "highly material" data points will negatively affect the company's score.

- *ESG controversies overlay.* Companies are verified against their commitments to magnify the impact of significant controversies on their overall ESG scoring. The scoring methodology aims to address the market capitalization bias that large companies suffer from. This is done by introducing severity weights, which adjust controversy scores based on a company's size.

- *Industry and country benchmarks at the data point scoring level.* These are introduced to enable fair comparison within peer groups.

- *Percentile rank scoring methodology.* To produce a score between 0 and 100, LSEG simplifies calculations by eliminating hidden layers of complexity and assigning letter grades for easy comprehension.
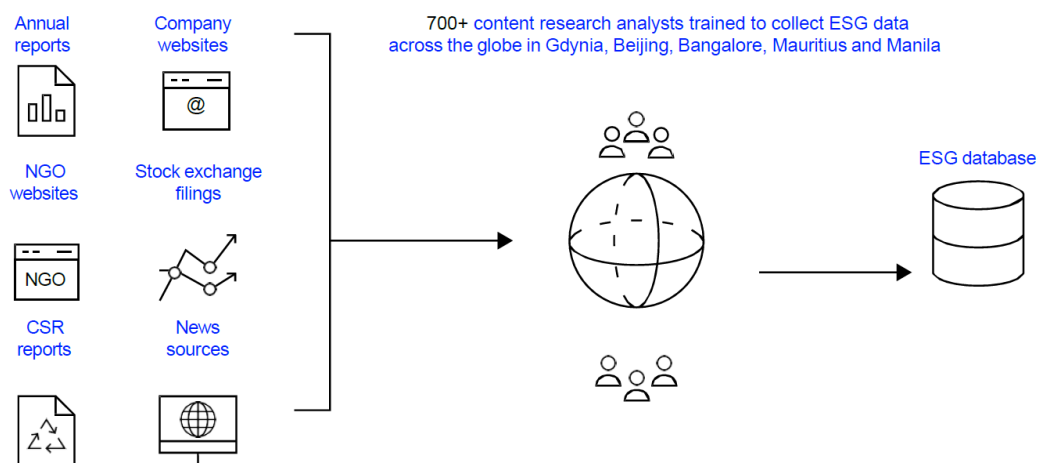
Figure 2.11: Refinitiv's ESG Database [1].

Data process, coverage, and update

LSEG has a team of more than 700 content research analysts who manually process over 630 ESG measures for each company within the ESG universe, ensuring comprehensive and standardized coverage from publicly available sources. The ESG scores are recalculated every week, and the database is continuously updated to align with corporate reporting patterns. Figure 2.11 shows how the ESG database is built. The LSEG ESG coverage universe includes over 15 500 public and private companies across the globe. This accounts for 90% of the global market capitalization and goes as far back as 2002. Additionally, the coverage is continuously expanding, as more indices are included in the database. The regional breakdown and the timeline of indices inclusion are shown in Figure 2.12.

Scores overview and structure

As we previously mentioned, The LSEG ESG scores provide a transparent, data-driven assessment of companies' relative ESG performance and capacity. They account for industry-specific factors and company size biases. The ESG scores are calculated and available for around 1 000 companies (mostly US and European) dating back to the 2002 fiscal year. The model includes two overall ESG scores:

54
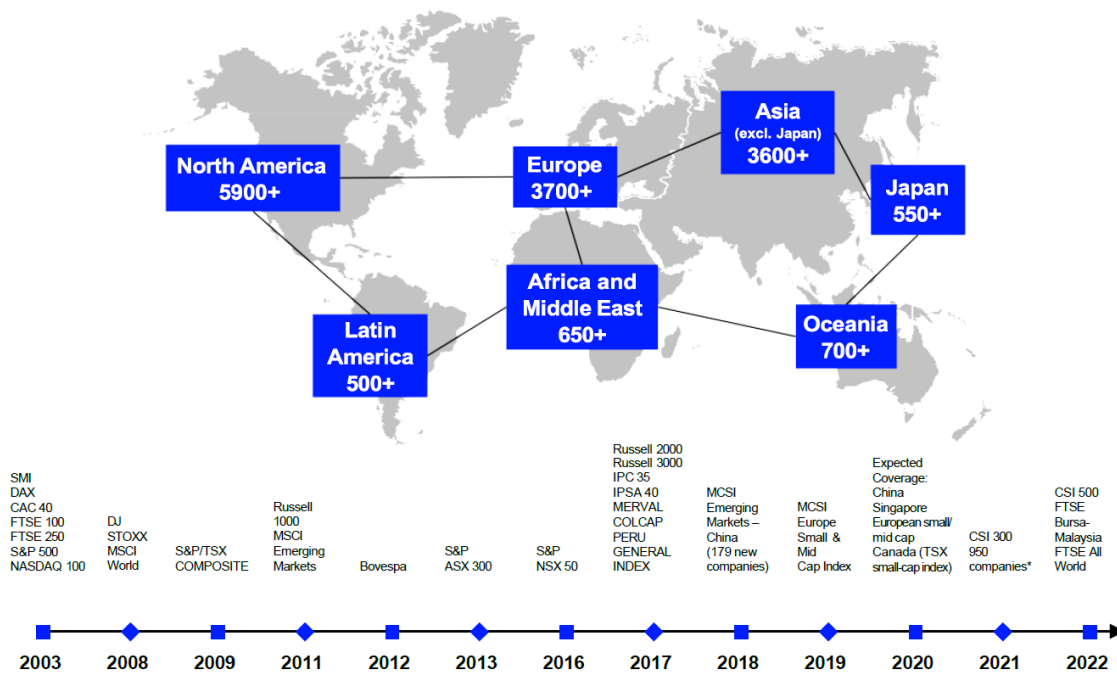
Figure 2.12: Refinitiv's ESG Data coverage [1].

- *ESG Score*: it evaluates a firm's ESG performance using publicly reported data. It reviews facts and numbers related to environmental, social, and governance practices.

- *ESGC Score*: it includes the ESG score, but further adds a check for controversies. This broader measure reviews sustainability impact over time.

Both overall scores give insight into a company's responsibility. Users can pick which scoring system fits their needs, rules or investing aims best.

The ESG Score reflects the company's ESG performance, commitment, and efficiency based on public information. LSEG tracks and assesses over 630 company ESG metrics: of these, a subset of 186 measures are the most relevant and important per industry. These power the overall company evaluation and scoring process. The metrics are grouped into 10 categories (as shown in Figure 2.13), which are then reformulated into the three pillar scores (Environmental, Social, and Governance), and the final ESG score (a relative sum of category weights, that vary per industry for environmental and
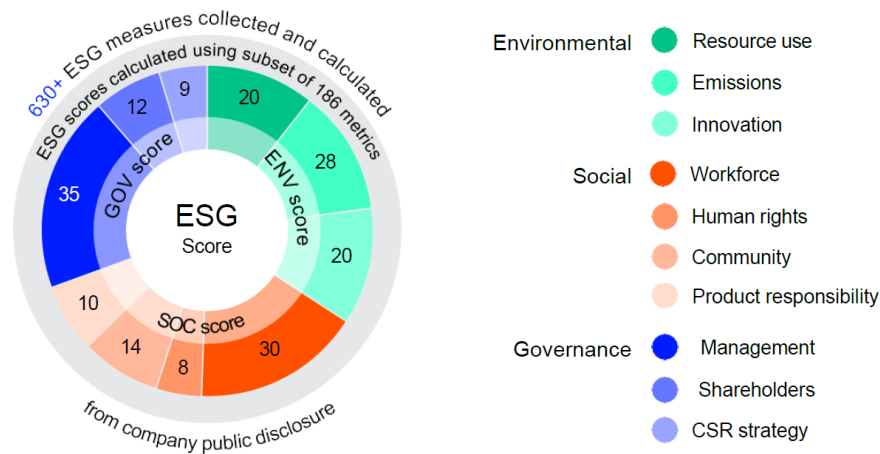
Figure 2.13: Refinitiv's ESG Score structure [1].

social categories, but remain constant for governance). The pillar weights are then normalised to percentages ranging between 0 and 100.

ESGC scores give a comprehensive look at a firm's ESG performance discounting the ESG score with the negative news impact from big ESG controversies, but without controversies, the ESGC score simply equals the ESG score. The ESG controversies score employs twenty-three topics for calculation. Companies face penalties for scandal involvement during the year, impacting their overall ESGC score and grading. If related negative developments arise, like lawsuits, disputes, or fines, the event's impact may persist into the following year. As controversies progress, new media materials get captured. The controversies score also addresses the market cap bias large-cap companies face due to increased media attention compared to smaller-cap counterparts.

The ESG scores are presented on a percentile rank scoring methodology, providing scores between 0 and 100, as well as letter grades from D- to A+ for easy interpretation. The conversion from a percentile score to a letter grade is based on the logic illustrated in the table in Figure 2.14.

Scores calculation methodology

The scores calculation methodology for ESG scores from LSEG involves five key steps:

Score range	Grade	Description
0.0 <= score <= 0.083333	D -	'D' score indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
0.083333 < score <= 0.166666	D	
0.166666 < score <= 0.250000	D +	
0.250000 < score <= 0.333333	C -	'C' score indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
0.333333 < score <= 0.416666	C	
0.416666 < score <= 0.500000	C +	
0.500000 < score <= 0.583333	B -	'B' score indicates good relative ESG performance and above- average degree of transparency in reporting material ESG data publicly.
0.583333 < score <= 0.666666	B	
0.666666 < score <= 0.750000	B +	
0.750000 < score <= 0.833333	A -	'A' score indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.
0.833333 < score <= 0.916666	A	
0.916666 < score <= 1	A +	

ESG laggards

ESG leaders

Figure 2.14: Refinitiv's ESG Score interpretation [1].

- *ESG Category Scores.* In this step, individual category scores are calculated based on verifiable reported data in the public domain. These scores reflect a company's performance in specific ESG areas such as emissions, resource use, community engagement, and human rights.

- *Materiality Matrix.* The materiality matrix assigns unique weightings to ESG factors based on their importance across industries. This step ensures that the scoring system accounts for the varying significance of ESG metrics in different sectors.

- *Overall ESG Score Calculation and Pillar Score.* The overall ESG score is derived by aggregating the individual category scores, considering the materiality weights assigned in the previous step. Pillar scores are calculated for different ESG dimensions based on the weighted category scores.

- *Controversies Scores Calculation.* This step involves assessing and incorporating ESG controversies that impact a company's sustainability performance. The scoring methodology adjusts for the severity of controversies and their impact on the overall ESG score.

- *ESGC Score.* The ESGC score is generated by overlaying the ESG score with
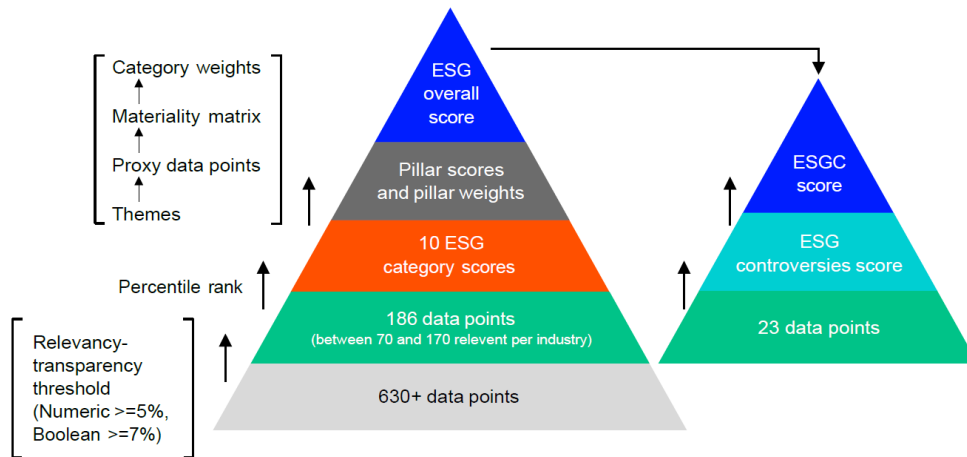
Figure 2.15: Refinitiv's Scores calculation methodology [1].

controversies scores. This comprehensive evaluation provides insights into a company's sustainability impact and conduct over time, allowing users to make informed decisions based on both ESG performance and controversies.

This process is summarised in Figure 2.15.

2.3.2 Bloomberg

Overview and principles

In the introduction of the document *Environmental, Social and Governance (ESG) Scores - Methodology and Field Information*, published on the Bloomberg Terminal [49] in September 2023, we find some interesting statements:

"In recent years, environmental, social and governance (ESG) issues have increasingly influenced and impacted business decisions [...]. The development of these [ESG] scores is grounded in Bloomberg's longstanding efforts to champion useful, *comparable*, and consistent sustainability disclosures and to facilitate their integration into financial decision-making. By introducing *transparent*, *data-driven* ESG Scores, Bloomberg is highlighting the value of sustainability information and promoting improved disclosure from a wide range of businesses around the world" [50].

As we have seen for Refinitiv, Bloomberg Terminal aims to address key gaps in ESG data provision by enhancing transparency and objectivity in scoring methodologies. Bloomberg's work on ESG scores has been guided by analysts, researchers, and investors who have emphasised the significant obstacle of incorporating company-reported ESG data in the investment decision-making process. As a result, Bloomberg's ESG scores consolidate corporate sustainability information and streamline the integration of ESG analysis into business and investment evaluation. These scores have been developed by a team of specialized cross-business contributors who collaborated with external experts and actively engaged with clients to learn from their insights and experiences in sourcing and analyzing ESG data.

Bloomberg's ESG scores measure "a company's management of financially material ESG issues[4] [...]. Bloomberg identifies financially material issues based on proprietary research, which is shared transparently and based on an assessment of probability, magnitude and timing of impact" [50]. Bloomberg ESG scores evaluate both present exposure and management effectiveness for environmental, social, and governance concerns. These scores are based on publicly available data and do not involve direct engagement with companies. The evaluation comprises metrics related to performance, commitments, targets, and policies that demonstrate a company's approach to ESG risks and opportunities. The scores provided by Bloomberg are designed to represent the top performers within a particular peer group. The scores consider the disclosure of quantitative data as a measure of performance and use an absolute Disclosure Factor to adjust the scores for each issue. The scores are determined using a quantitative methodology that takes into account normalization, polarity, and the type of data field. The scores range from 0 to 10, with higher scores indicating better management of significant ESG issues.

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[4]Financial materiality is defined as the set of issues that can have a positive or negative impact on the financial performance of a firm, i.e. revenue streams, operating costs, cost of capital, asset value and liabilities.

Bloomberg's ESG scores stand out due to several key factors that differentiate them from other ESG scoring systems [50]:

- *Materiality-Based Approach.* Bloomberg's ESG scores focus on a company's management of financially material industry-specific environmental, social, and governance issues and opportunities. This approach ensures that the scores reflect the issues that can have a significant impact on a company's financial performance.

- *Quantitative and Timely Updates.* The methodology used for Bloomberg's ESG scores is quantitative, taking into account normalization, polarity, and the type of field being assessed. This approach ensures consistency and comparability across companies. Additionally, the scores are updated on a rolling basis to reflect the most current data available.

- *Transparency.* Bloomberg places a strong emphasis on transparency in its ESG scoring methodology. Users have access to all the data driving each score, including weights and percentiles. This transparency allows for a deeper understanding of how the scores are calculated and facilitates informed decision-making.

- *Integration and Customization.* Bloomberg's ESG scores are integrated into the Bloomberg Terminal and are also available through Bloomberg Data License. This integration allows users to access the scores alongside other financial data and analysis tools. Furthermore, users can customize their analysis by accessing input data and score model parameters for tailored assessments.

Data process, coverage, and update

Bloomberg's ESG scores are determined using publicly available, company-reported ESG data and do not include any estimates or analyst opinions in their calculation or adjustment. The data used in the scores is fully transparent, with the source document available for review. Sources for this data include annual reports, integrated reports, corporate responsibility reports, disclosure against ESG reporting frameworks

60

and standards such as SASB index tables, proxy voting and other corporate governance documents, and other ESG releases. While the reporting cycle for ESG data is typically annual, the data is reviewed, acquired, and incorporated into scores on a rolling basis to account for variations in reporting timelines. Bloomberg does not proactively reach out to companies to discuss the scores, but resources are available for companies to request detailed reports and verification forms. In cases where further clarification is required, Bloomberg analysts may directly contact the companies.

Bloomberg's ESG Scores have extensive data coverage and are regularly updated to provide users with the most current information.

Approximately 15 000 companies are covered, representing 90% of global market capitalization across over 100 countries. This broad coverage ensures a comprehensive view of ESG performance across various regions and industries. The coverage includes a limited number of private companies, offering insights into both public and private entities. Bloomberg ESG Scores map at the issuer level to provide over 90% coverage of Bloomberg US and European corporate investment-grade bond indices. Additionally, around 70 000 funds are scored using a bottom-up approach that aggregates ESG score percentiles, enabling investors to assess ESG performance at the fund level.

Bloomberg ESG Scores are calculated on a regular basis to incorporate newly available data and updates to previously disclosed information. ESG data is typically reported annually, but reporting timelines may vary by company. Scores are updated on a rolling basis as new data becomes available, ensuring that users have access to the most up-to-date ESG performance metrics. The "Latest" scores use the most current information available, supplementing the most recent complete fiscal year's data with any newly disclosed information. This approach provides users with real-time insights into companies' ESG performance. "Fiscal Year" scores are provided for a company once complete ESG data for a specific fiscal year is published, offering a snapshot of ESG performance for that period.

Bloomberg ESG analysts construct rating peer groups for businesses using BECS (Bloomberg Environmental, Social, and Governance Industry Classification System).

BECS Level 1 Sector	BECS Level 2 Industry	BECS Level 3 Peer Group	BICS Level	BICS Classification Name(s)
Consumer Staples	Agriculture	Agricultural Producers & Wholesalers	4	Agricultural Products Wholesalers Agricultural Producers - excluding Aquaculture Fishing, Animal Production & Process (BICS Level 5)
Consumer Staples	Food & Beverages	Packaged Food	4	Packaged Food
Consumer Staples	Household Products	Home Products & Personal Care Products	4	Personal Care Products Household Products
Consumer Staples	Food & Beverages	Non-Alcoholic Beverages	4	Non-Alcoholic Beverages
Consumer Staples	Food & Beverages	Alcoholic Beverages	4	Alcoholic Beverages

Figure 2.16: Example of BICS-BECS peer group mapping [50].

In this way, businesses can be grouped together based on the same or similar business models, revenue streams, products, supply chains, customers, and ESG exposure. Being based on the Bloomberg Industry Classification System (BICS) nodes, it allows the development of ESG ratings and analyses. The classification facilitates a more detailed assessment of the ESG performance, risks, opportunities, as well as impacts. Figure 2.16 shows an example of BICS-BECS peer group mapping.

Scores overview and structure

The ESG score structure in Bloomberg ESG Scores is organized into pillars, issues, sub-issues, and fields. A schematic arrangement of this structure is presented in Figure 2.17.

The *Headline Score* is determined by averaging the scores of the E, S, and G pillars, which have been assigned weights based on their relative importance. The combined ESG score is calculated using industry-specific weights for the E and S issues. In each industry, the E, S, and G pillars have been ranked on a scale of 1 to 5, with 1 indicating the highest priority. The G Pillar has been assigned a rank of 3 for all industries, as country- and region-specific factors can have a greater impact on governance than industry-specific factors.

Aggregated *Pillar Scores* are obtained by combining Issue Scores using a weighted

generalized mean (power mean[5]), with the weights assigned based on Bloomberg research. The weights for binary fields[6] are reduced by 80%.

Issue Scores are calculated using the power mean of the Sub-Issue Scores and have two dimensions: Issue Performance Score and Disclosure Factor. The Issue Performance Score is a weighted generalized mean of Sub-Issue Scores, with all sub-issues weighted at 1 except those with binary fields, which are weighted at 0.25. The Disclosure Factor (DF) is a weighted percentage that measures the quantitative[7] and binary fields in the Issue, with each field having a DF point value assigned by Bloomberg. The DF is based on the ratio of the sum of the points out of the total points a company can earn by disclosing all fields. It determines a disclosure-driven score range, and scales the Performance score into that range.

Sub-Issue Scores are calculated by aggregating Field Scores using a weighted average, depending on the Fit/Quality attribute of fields in the sub-issue. Fit/Quality values can be High, Medium, or Low:

- High (H): "The metric is a good measure of what is called for in various ESG reporting frameworks, and the data is comparable" [50].

- Medium (M): "The metric is either a good measure (as above), or the data is comparable, but not both" [50].

- Low (L): "The metric is not a good measure and the data is not comparable, or the field is a qualitative Policy field" [50].

Finally, *Field Scores* are generated based on the Fit/Quality attribute of the input fields, which are given attributes based on their fit for purpose, quality of disclosure,

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[5]"Power means are a generalized mean, and are used to reward excellence across the board and to penalize less consistent performance between the various aggregated score levels" [50].

[6]"Binary field types have either 'Yes' or 'No' values and represent Bloomberg's E and S policy fields — indicating whether or not a company has disclosed information on a particular topic. As such, binary fields do not assess the quality of such disclosure" [50].

[7]"Quantitative field types have values that are numerical" [50].

Overall ESG Score (0-10, 10 is best)
Weighted generalized mean* of Pillar scores

Pillar Scores (0-10, 10 is best)
Weighted generalized mean* of Issue (ES) or
Theme (G) scores

Theme Scores (G only; 0-10, 10 is best)
Weighted generalized mean* of Issue scores

Issue Scores (0-10, 10 is best)
Represent the Issue Performance score scaled and
shifted into a range determined by the Disclosure
Factor
Consists of:
Issue Performance Score (0-10, 10 is best) -
weighted generalized mean* of Sub-Issue scores
Disclosure Factor (0-1, 1 is best) - measure of
quantitative field disclosure; determines Issue
score range

Sub-Issue Scores (0-10, 10 is best)
Aggregate Field scores by a simple mean,
weighted generalized mean* or custom
aggregation

*Percentiles (0-100, 100 is best) are available for Overall, Theme,
Pillar and Issue scores. Percentiles are computed for each BECS
Level 3 and allow for comparison across scores for companies
in different peer groups*

Field Scores (0-10, 10 is best)
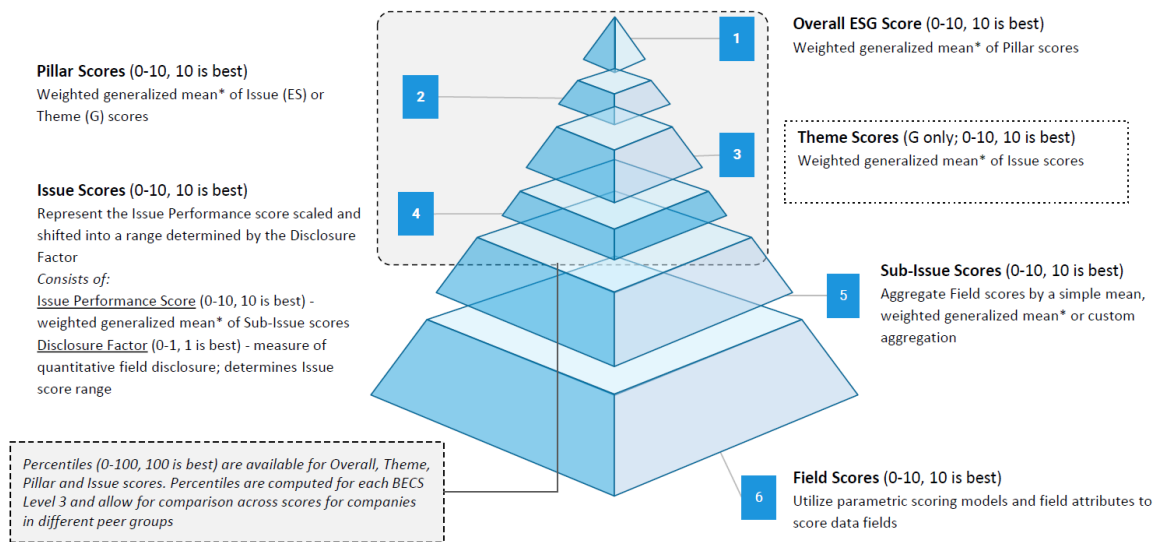Utilize parametric scoring models and field attributes to
score data fields

Figure 2.17: Bloomberg's ESG scores structure [50].

and comparability. Each field is scored using a quantitative methodology that takes into account normalisation, polarity[8], and the type of field.

Scores calculation methodology

The scoring process in Bloomberg ESG Scores consists of five fundamental phases:

- *Research.* This phase involves researching to select ESG issues and determine their weighting. Bloomberg utilizes disclosure standards such as SASB/ISSB, industry-specific frameworks, country-specific governance codes, and company materiality analyses to identify important concepts, metrics, and their financial materiality.

- *Data Collection & Quality Assurance.* Data collection is crucial in this phase: it consists of collecting indicators that were previously identified for scoring. Scored tickers undergo multiple levels of quality checks, including pre-publish statistical

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[8]"Polarity (positive or negative) is used to reflect activities that decrease or increase E, S, financial, operational, or reputational risks. In other words, positive polarity is assigned where a higher field value means lower E or S risk, or higher E or S opportunity and, therefore, a higher score" [50].

and heuristic checks, as well as post-publish data reviews to ensure accuracy and reliability.

- *Scoring.* In this phase, issue priority[9] is assigned, and scoring model decisions are made based on factors such as the disclosure factor, fit/quality, and other attributes of indicators and issues. Parameters and preliminary scores are produced and prepared for validation. Bloomberg's scoring methodology is driven by a bottom-up, model-driven approach that incorporates self-reported, publicly available information. The process involves input from research analysts, industry experts, statistical techniques, and factor analysis to identify unique environmental, social, and governance issues.

- *Validation.* Scores undergo validation across input data, model and parameter components, and outputs. Model validation occurs before new industries are released and for all industries during annual methodology and parameter reviews. Input/output validation occurs monthly as new data is reported and scored.

- *Publication & Documentation.* The final phase involves updating the scores on the Bloomberg Terminal and adding the universe of Bloomberg ESG Scores (BECS) peer groups on the ICS function. Methodology documents for any newly scored industries are published on BESG to provide users with insights into the scoring process and methodology.

A simplified representation of this process is illustrated in Figure 2.18.

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[9]Issue priority refers to the ranking and importance assigned to specific environmental, social, and governance (ESG) issues within each industry. The issue priorities are determined based on various factors such as industry-specific risks, opportunities, regulatory actions, financial impacts, and sustainability themes. The priority rankings are provided for each industry, with rationales for the level of priority assigned to each issue [50].
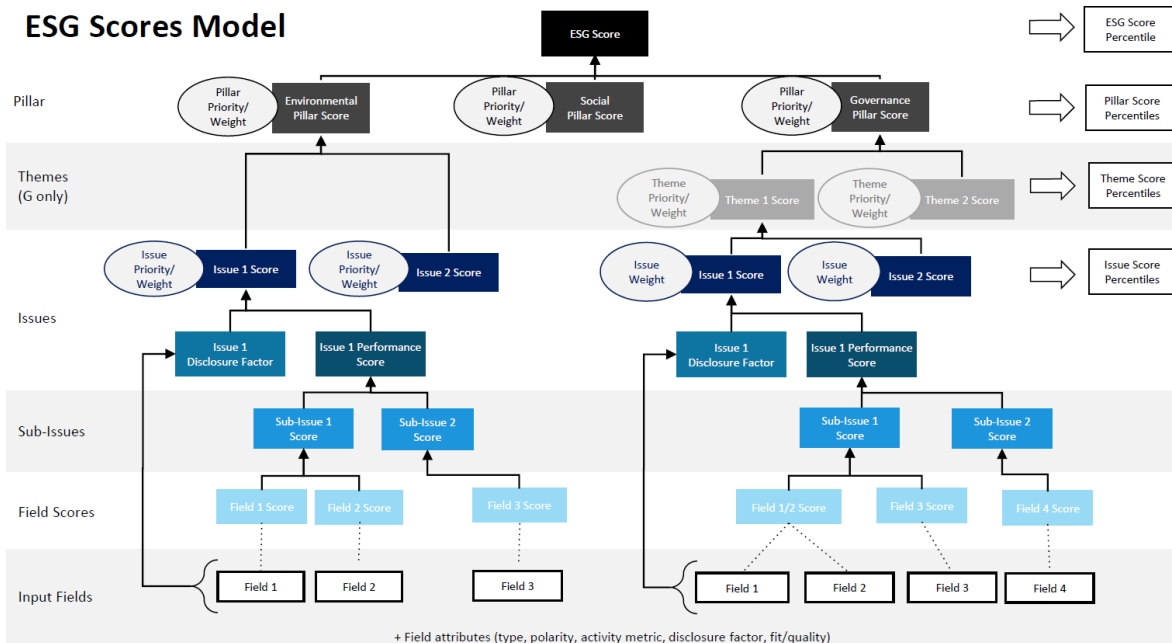
Figure 2.18: Bloomberg's ESG scores model [50].

2.3.3 S&P Global

Overview and principles

The document published in August 2023 by S&P Global presents the objective of the ESG score calculated by this provider:

"The S&P Global ESG Score measures a company's performance on and management of material ESG risks, opportunities, and impacts informed by a combination of company disclosures, media and stakeholder analysis, modeling approaches, and in-depth company engagement via the S&P Global Corporate Sustainability Assessment (CSA). [...] The S&P Global ESG Score uses a *double materiality* approach whereby a sustainability issue is considered to be material if it presents a significant impact on society or the environment and a significant impact on a company's value drivers, competitive position, and long-term shareholder value creation" [45]. This statement highlights the importance of materiality, which is one of the most relevant concepts in the realm of ESG ratings. In addition, a firm's performance is compared to its peers within the same industry classification.

66

The S&P Global ESG Scores are characterized by a number of noteworthy features [44]:

- *Comprehensive.* The S&P Global ESG Scores are available for over 10 000 companies across 62 sub-industries, accounting for 99% of the global market capitalization. Among these, more than 2 200 firms currently participate in the CSA, representing half of the global market capitalization. Each year, the number of participants continues to increase, with a growth of over 50% from 2020 to 2021.

- *Detailed.* The S&P ESG Scores are supported by up to 1 000 underlying data points per company, providing users with the necessary granularity. Companies participating in the CSA offer exclusive disclosures beyond what they publicly disclose. The remaining companies in the S&P universe are assessed using public information and are held to the same exact standards as those that participate.

- *Specific.* Unlike many other ESG scores, which are vague and qualitative, the S&P Global ESG Scores provide users with numerical assessments (1-100) of corporate sustainability performance, based on transparent layers of quantitative metrics.

- *Thorough.* S&P keeps a constant look on companies through its Media & Stakeholder Analysis (MSA). The daily scanning of Media and Stakeholder sources is carried out by S&P Global's partner, RepRisk1. This enables users to stay informed about any potential involvement a company may have in material controversies that could have a long-lasting and damaging impact on their reputation, financial situation, or business model. If an MSA case is triggered, companies are given the opportunity to respond with verifiable, countervailing evidence and remediation plans.

Data process, coverage and update

The ESG Scores are researched and constructed through the S&P Global Corporate Sustainability Assessment (CSA), an annual assessment of company sustainability per-

formance. Companies are invited to participate in the CSA and submit in-depth data and supporting evidence through 62 industry-specific questionnaires. Expert analysts fill assessment questionnaires for non-responsive companies using publicly available information. Data is assessed based on the latest financial year reporting and stored securely. In addition to this annual valuation, companies are constantly monitored with a screening of controversies, looking at issues that might have "a material and lasting impact on their reputations, stakeholder relations, financial performance and/or business operations" [45]. The S&P Global ESG Scores Methodology research design is set up to evaluate corporate sustainability risks, opportunities, and stakeholder impacts over the short-, medium-, and long-term. The following are key points about the research design:

- *Evaluation Criteria.* General criteria such as Climate Strategy, Human Rights, and Risk and Crisis Management are assessed across all 62 GICS-aligned assessments. Industry- or cross-industry-specific factors are evaluated in the remaining 50-60% of assessments to ensure relevance to a company's long-term success within its industry.

- *Industry-Specific Methodologies.* The methodology includes 62 industry-specific methodologies within the CSA to tailor assessments to the unique characteristics of different industries. Weight adjustments are made to criteria that are not relevant to a specific sub-industry to ensure accurate aggregation into the total S&P Global ESG Score for a company.

- *Company Measures.* Questions within each criterion are structured to assess various company measures on sustainability topics, including awareness of relevance and impact on value drivers and stakeholders, quantification of risk exposure and opportunities, implementation of sustainability strategies, measurement of results against KPIs, validation of reported data, and transparent communication of sustainability strategies.

- *Materiality and Relevance.* Sustainability factors are prioritized based on their expected magnitudes and likelihoods of impacts, as well as their correlations with financial outcomes and business value drivers. The weighting of criteria and questions is determined by their materiality and relevance to specific sub-industries to ensure a comprehensive evaluation of ESG performance.

By incorporating industry-specific methodologies, assessing a wide range of sustainability factors, and prioritizing materiality and relevance, the research design of the S&P Global ESG Scores Methodology aims to provide a robust framework for evaluating companies' ESG practices.

For what regards data coverage, S&P includes "companies that are part of core S&P Dow Jones Indices benchmarks, companies that are eligible for the Dow Jones Sustainability Indices and other companies that are relevant for or requested by investors". In March 2023, over 3 000 companies were elected to participate in the CSA (representing over 45% of global market capitalization). As of August 2023, more than 16 700 companies were invited to participate in the CSA.

ESG Scores and underlying data levels are updated monthly to reflect changes resulting from ongoing research processes, including monitoring controversies that could impact companies' reputations and operations. Historical data for up to 1 000 underlying data points per company is available, with options for disclosing additional data to enhance transparency and granularity for S&P Global customers. The methodology ensures that the most current information is reflected in the ESG scores to provide users with up-to-date insights into companies' sustainability practices.

Scores overview and structure

ESG Scores are measured on a scale of 0-100, where 100 represents the maximum score.

The *S&P Global ESG Score* is a comprehensive measure of a company's sustainability performance, calculated by aggregating its Environmental, Social, and Governance Dimension Scores. These scores are weighted according to their importance for a given
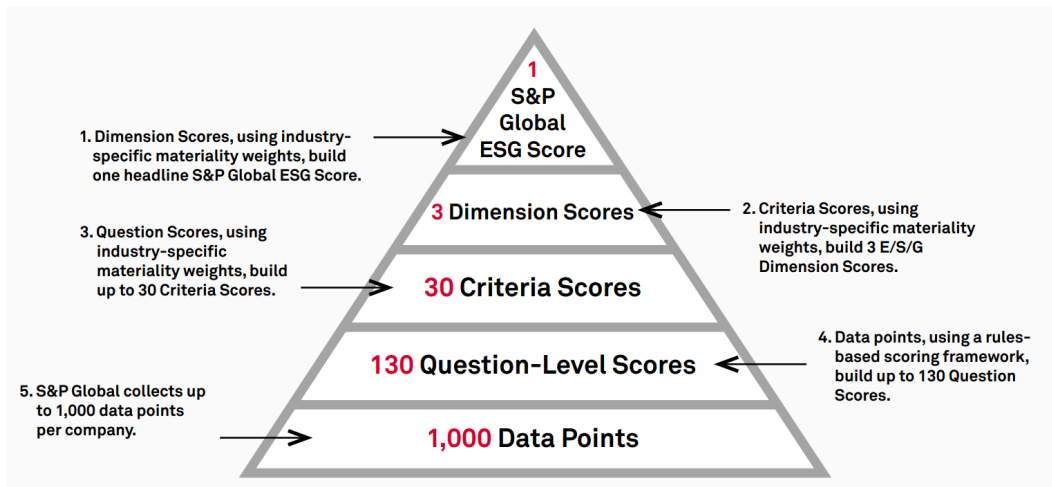
Figure 2.19: S&P Global ESG Scores: how the score is created for each company [44].

sub-industry, and the overall score is often used in portfolio or index construction due to its completeness and simplicity.

The *Dimension Scores* provide a deeper view of a company's sustainability performance relative to its peers on E/S/G themes, and are useful when constructing single-issue strategies or manipulating the overall weights in an ESG score. Additionally, over 30 *Criteria Scores* assess a company's performance on high-level sustainability themes within each dimension, with industry-specific criteria complementing general criteria that apply to all industries. These metrics help demonstrate the areas that are most financially material and impactful for a given sub-industry according to S&P Global experts and more than twenty years of real-life investment performance data.

Approximately 130 *Question-level Scores* provide even greater insight into a company's performance on individual sub-themes within each criterion, with approximately half of the questions being industry-specific. Responses to each question are supported by multiple data points, with up to 1 000 per company, offering unparalleled transparency into how the S&P Global ESG Scores are constructed and can be used in a variety of ways, from generating derived data calculations to supporting granular and systematic investment strategies.

Scores calculation methodology

The main steps in the S&P Global methodology for calculating ESG scores are the following:

- *Data Collection.* Companies participate in the S&P Global Corporate Sustainability Assessment (CSA) by completing industry-specific questionnaires that cover several ESG topics. They provide in-depth data and supporting evidence, including internal documentation beyond public disclosures, to back up their responses.

- *Data Normalization.* The collected data is standardized to ensure consistency and comparability across companies and industries. Normalization processes adjust data to account for differences in company size, industry characteristics, and reporting practices.

- *Question Scoring.* Questions within the assessment are scored based on the quality and depth of company responses. Question scores indicate the extent to which companies address ESG issues and demonstrate sustainable practices.

- *Weighting.* Criteria and questions are assigned weights based on their materiality and relevance to specific sub-industries. Weight adjustments are made to prioritize sustainability factors according to their expected impacts on stakeholders, business value drivers, and financial outcomes.

- *Aggregation.* Question-level scores are combined to create criteria-level scores, which then combine into environmental, social, and governance dimensions. The weighted scores from different dimensions are aggregated to calculate the overall S&P Global ESG Score for each company.

- *Quality Control.* Data collected through the CSA undergoes extensive quality control processes to ensure validity and accuracy. Trained analysts review the data using verification frameworks and cross-check responses with internal documentation or regulatory filings.
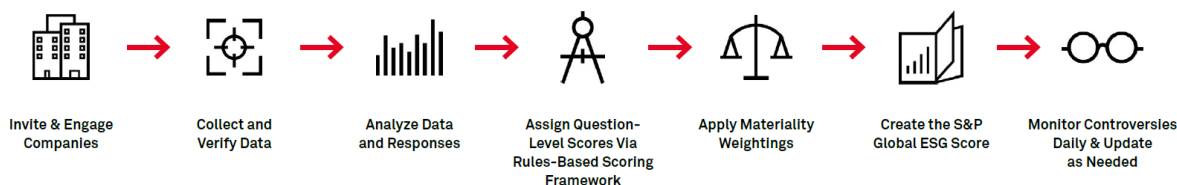
Figure 2.20: A Multi-step Process to Create the S&P Global ESG Scores [44].

- *Disclosure Analysis.* The ESG Scores methodology includes a disclosure analysis component that evaluates the availability of company information and its impact on the ESG Score. The analysis categorizes data availability, required public disclosure, additional disclosure, disclosure level, and actual score contribution to provide transparency on the information disclosed by companies.

A different way of representing this process is displayed in Figure 2.20.

2.3.4 Morningstar Sustainalytics

Overview and principles

The document *ESG Risk Ratings - Methodology Abstract* displays the definition of the ESG risk rating, the measure provided by Sustainalytics.

"Sustainalytics' ESG Risk Ratings measure a company's exposure to industry-specific material ESG risks and how well a company is managing those risks. This multi-dimensional way of measuring ESG risk combines the concepts of management and exposure to arrive at an *absolute* assessment of ESG risk" [13]. So, this rating measures the "magnitude of a company's unmanaged ESG risks" [14].

The main advantages of ESG risk ratings by Sustainalytics are the following [13]:

- *Absolute Measure of ESG Risk.* The firm offers an accurate measure of ESG risk through a sophisticated rating system that enables top-tier analysis. Company ratings are comparable across peers and subindustries, and they can be easily aggregated at the portfolio level.

72

- *Integrated Corporate Governance Information.* They provide fully integrated, comprehensive corporate governance research and ratings.

- *Extensive Coverage.* Sustainalytics has developed an enhanced coverage of Chinese companies listed in Shanghai and Shenzhen, which are significant regional contributors to emerging market indices.

- *Transparent methodology.* The provider uses a transparent methodology that offers multiple levels of data and qualitative insights to provide clients with tailored ESG solutions.

Data process, coverage, and update

Sustainalytics' methodology abstract outlines a comprehensive research process that includes several key components for developing and maintaining the ratings. This process involves an annual review of subindustry-specific exposure assessments to validate the selection of material ESG issues for each subindustry. The exposure scores for different material ESG issues may be adjusted, and new management indicators may be introduced to enhance the overall management score. Clients are informed in advance of structural changes, such as the addition of new data points, which are implemented once a year.

At the company level, Sustainalytics follows an annual update cycle for each company in its Ratings universe. A comprehensive research process is conducted for each company, leading to a full update of the company's ESG Risk Ratings report. The update includes company-specific exposure and management assessments based on data collection, analysis, and evaluation of ESG criteria. The underlying research for the ESG Risk Ratings is based on three processes and research cycles. Data collection involves gathering information from public disclosures, media sources, NGO reports, and other relevant sources. Analysts evaluate company data against the indicator framework to assess ESG performance and risk exposure. Existing event assessments are confirmed or adjusted during the annual update, followed by a peer review and quality

assurance process.

Event assessments are conducted continuously throughout the year based on daily news flow, with a focus on Category 4 or 5 events[10]. Assessments related to significant events undergo a robust quality control process to ensure accuracy and reliability. Companies in the Ratings universe are provided with draft reports for feedback, enabling them to verify information accuracy and provide additional data for consideration.

AI-backed human expertise is proven effective at opting for the realms to find appealing news and editing. Research analysts leverage today's technologies to analyze more than 60 000 news sources and delve through one million news articles a day. In the context of an annual update of the company profiles, the respective discipline is enhanced by a system of corporate reporting on the set schedules. The company carries out this systematic analysis through a team of more than 800 ESG research analysts, and the systemized study and abilities of Artificial Intelligence. A neat quality control process is implemented, which involves senior analysts doing an audit, and continuous feedback from the companies under review is monitored.

The ESG Risk Ratings research factors on more than 16 300 entities, pertaining to the areas of public equity, fixed-income and private companies. This elaborate coverage is a reflection of how the process involved AI-led data automation and analysis more systematically and delivered intelligent results that were as holistic as human expertise.

Scores overview and structure

The *ESG Risk Ratings - Methodology Abstract* by Sustainalytics includes a section entitled "The Three Building Blocks", which delineates the foundational components that contribute to assessing a company's ESG performance. In this section, a comprehensive summary of these three elements will be displayed.

- *Corporate Governance.* The ESG Risk Ratings methodology identifies corporate

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[10]High risk or Severe risk events.

governance as a fundamental aspect. Robust governance practices play a critical role in mitigating material risks for companies. Effective corporate governance structures and practices are crucial for managing ESG risks, enhancing transparency, and maintaining ethical standards. Weak corporate governance can pose significant threats to a company's reputation, financial stability, and long-term sustainability.

- *Material ESG Issues (MEIs).* Material ESG issues are key factors that can impact a company's ESG performance and overall risk profile. Sustainalytics evaluates material ESG issues based on their relevance to the company's operations, industry, and stakeholders. Identifying and addressing material ESG issues is vital for companies to effectively manage risks, enhance resilience, and create long-term value.

- *Idiosyncratic ESG Issues.* Idiosyncratic ESG issues refer to specific or unique environmental, social, or governance concerns that may affect a company's operations. These idiosyncratic issues are considered alongside material ESG issues to provide a comprehensive assessment of the company's ESG risk landscape. Addressing idiosyncratic ESG issues requires a tailored approach that takes into account the company's specific circumstances, industry dynamics, and stakeholder expectations.

By incorporating these three building blocks into the ESG Risk Ratings methodology, Sustainalytics aims to provide investors and stakeholders with a holistic view of a company's ESG performance, governance practices, and risk management strategies. Understanding the interplay between corporate governance, material ESG issues, and idiosyncratic concerns is essential for assessing the overall sustainability and resilience of a company in the face of evolving ESG challenges. Figure 2.21 displays a simplified representation of the three building blocks.

In the "Two Rating Dimensions" section, Sustainalytics introduces two key dimensions that are essential for evaluating a company's ESG risk profile. These dimensions
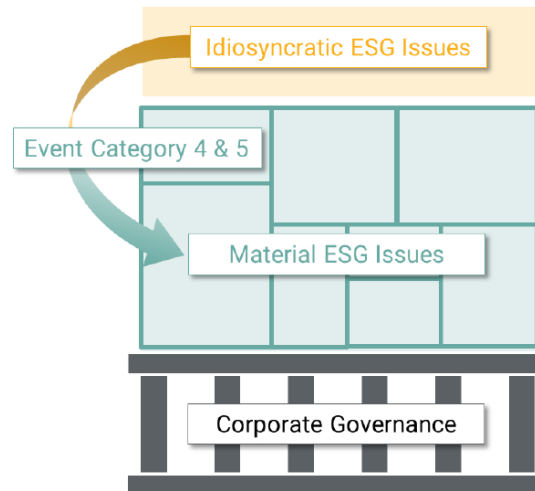
Figure 2.21: The three building blocks of the ESG Risk Ratings. "The exposure to Corporate Governance is similar across the board. Only Category 4 or 5 events result in an adjustment of a company's exposure score" [14].

are Exposure and Management.

Exposure refers to the extent to which a company is vulnerable or sensitive to material ESG risks that could impact its financial performance, reputation, and long-term sustainability. The evaluation of Exposure considers ESG-related factors that have the potential to pose economic risks for the company. These factors are assessed at both the overall and individual Material ESG Issue (MEI) levels.

Management, on the other hand, reflects how well a company is addressing and managing its exposure to material ESG risks. It evaluates the effectiveness of the company's ESG risk management practices, policies, and initiatives. Companies that demonstrate strong management practices are better equipped to proactively address ESG challenges, seize opportunities for value creation, and enhance their overall ESG performance.

This methodology emphasizes the importance of *balancing* exposure to ESG risks with effective management practices. A company with high exposure but robust management may be better equipped to navigate ESG challenges than a company with low exposure but inadequate management. By considering both exposure and management

76

dimensions, investors and stakeholders can gain a comprehensive understanding of a company's ESG risk profile, resilience, and potential for long-term value creation.

Scores calculation methodology

The section "Calculating the ESG Risk Ratings" provides a comprehensive overview of the process for assessing and quantifying a company's exposure to ESG risks.

The final ESG Risk Ratings scores are a measure of *Unmanaged risk*, which refers to ESG risks that have not been effectively managed by the company. It is divided into two components:

- Unmanageable Risk, which includes risks that are beyond the company's control and cannot be managed through internal initiatives.

- Management Gap, which reflects the company's failure to adequately manage material ESG risks despite the potential for mitigation.

The ESG Risk Ratings scoring system operates in three stages: exposure, management (i.e., "the degree to which risk is managed" [14]), and unmanaged risk. This structure applies to individual material ESG issues as well as the overall ESG Risk Ratings of the company. The scoring structure is illustrated in Figure 2.22, which shows the progression from determining exposure to assessing management and calculating unmanaged risk. The final ESG Risk Ratings score is calculated by summing the unmanaged risk scores of individual material ESG issues. This total unmanaged risk score represents the overall level of unmanaged risk within the company, taking into account both the management gap and unmanageable risks.

E/S/G cluster scores are used to provide additional insights into a company's performance in each ESG category (Figure 2.23). These scores help in evaluating the company's specific strengths and weaknesses across the Environmental, Social, and Governance dimensions, leading to a more nuanced assessment of its overall ESG performance. It is fundamental to note that E/S/G cluster scores are independent of the
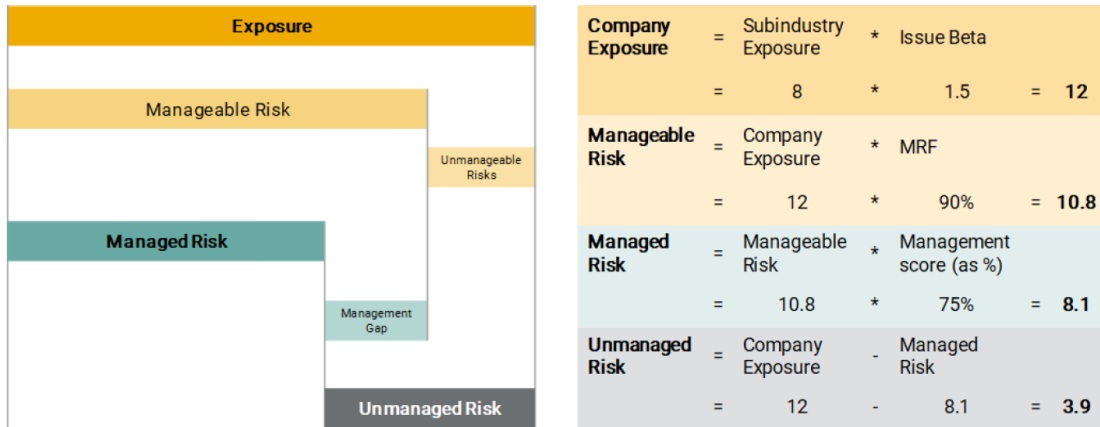
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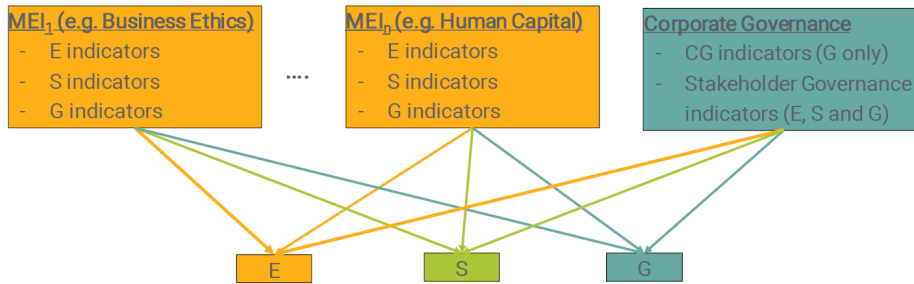Figure 2.22: ESG Risk Ratings – the scoring structure [14].

Figure 2.23: E/S/G cluster scores as linear combinations of MEI scores [14].

Figure 2.24: Categories of ESG risk severity [13].

ESG Risk Ratings framework. These metrics are not used for the purpose of rating calculations, but are offered as supplementary informative data to be used for the specified cases. Sustainalytics identifies five categories of ESG risk severity that could impact a company's enterprise value: these are represented in Figure 2.24.

In conclusion, the field of ESG rating providers is characterized by significant disparities in their methodologies and overall strategies. Each entity employs its own specific techniques for evaluating a company's ESG performance, which includes distinct criteria, data sources, and analytical approaches. These disparities stem from varying

interpretations of what constitutes important ESG factors and how they should be measured. As a result, the same company can receive different ESG ratings from different providers, showcasing the subjective nature of ESG assessments. This diversity emphasizes the intricacy of the ESG rating industry and stresses the need for stakeholders to comprehend the underlying methodologies of each provider when interpreting ESG scores. It also highlights the significance of transparency and standardization efforts within the ESG ecosystem to enhance the comparability and dependability of ESG ratings.

In Chapter 3, I will concentrate on the Stoxx Europe Large 200 Price Index's companies, evaluating their ESG ratings provided by the discussed providers. This comparative analysis is going to illustrate the diverging and inconsistent outcomes when different rating agencies are given the opportunity to produce their own valuation methodologies.

Chapter 3

An empirical analysis

In the second chapter, we discussed various methodologies employed by rating agencies to offer ESG ratings. The primary objective of this chapter is to visually demonstrate how these distinct and sometimes divergent methodologies affect the variation of scores. As we said in Section 2.2.5, this causes problems when investors have to decide whether to invest or not in a certain company.

Specifically, for my analysis, I will start from the Stoxx Europe Large 200 Price Index and compare the ESG scores from four providers:

- The first comparison will be between Bloomberg and Refinitiv scores, as they have a similar scoring structure. Therefore, they can be easily compared not only with regard to the global ESG score, but also concerning each of the three pillars.

- The second comparison will be between the ratings provided by S&P Global and Sustainalytics. These organizations have distinct ways of interpreting their scores, which might make the comparison challenging to comprehend initially. Nevertheless, this analysis will highlight that scores are scattered and difficult to comprehend.

3.1 Stoxx Europe Large 200 Price Index

3.1.1 Index description

Sectors and geography

The Bloomberg Terminal [49] gives this description of the index:

"The STOXX Europe Large 200 Index is a fixed component index designed to provide a representation of large capitalization companies in Europe. The index is derived from the STOXX Europe 600 Index and covers Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom".

This index is part of the Stoxx Europe 600 Price Index, which comprises 600 companies divided into 200 large, 200 mid, and 200 small stocks. The sectors of which the index is composed are not equally represented. Using the Global Industry Classification Standard (GICS)[1], we can see in Figure 3.1 that there is a large presence of firms in the Financials sector (46 firms), followed by the Industrials sector (37 firms) and the Health Care sector (22 firms). These three sectors combined represent more than half of the sample (105 companies out of 200). The complete list is provided by Table 3.1.

We can apply a similar reasoning to the countries where the firms' headquarters are located. Most companies are situated in the United Kingdom (40 firms), followed by Germany (31 firms) and France (28 firms). Together, these three countries represent almost half of the entire sample, with 99 out of 200 companies. Table 3.3 displays the overall distribution of firms among European countries. Figure 3.2 illustrates these numbers on a map, where countries are colored in shades of green: the darker the shade, the more firms are located in that country. It is interesting to notice that 87.00% of the company headquarters (174 out of 200) are located in the first eight countries.

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[1] "GICS is an industry analysis framework that helps investors understand the key business activities for companies around the world. MSCI and S&P Dow Jones Indices developed this classification standard to provide investors with consistent and exhaustive industry definitions" [39].

GICS Sector	Number of firms	Percentage
Financials	46	23.00
Industrials	37	18.50
Health Care	22	11.00
Consumer Discretionary	20	10.00
Consumer Staples	20	10.00
Materials	14	7.00
Information Technology	13	6.50
Communication Services	10	5.00
Utilities	9	4.50
Energy	7	3.50
Real Estate	2	1.00

Table 3.1: Stoxx Europe Large 200 Price Index Sectors (Data source: Refinitiv).

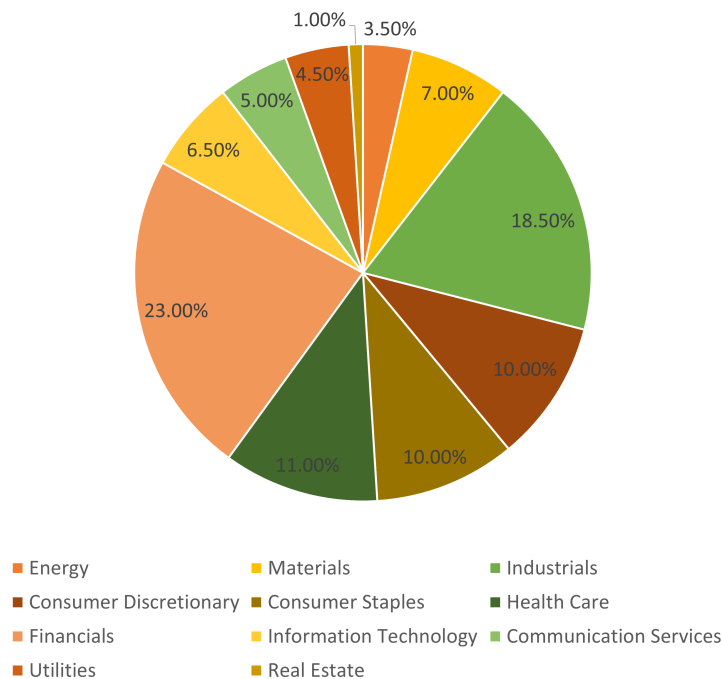Figure 3.1: Stoxx Europe Large 200 Price Index's sectors, own elaboration (Data source: Refinitiv).

As we can see, the index is highly concentrated in certain sectors and countries.

As of April 30, 2024, according to Refinitiv, the top performers of this index are Koninklijke Philips NV, Anglo American PLC, Daimler Truck Holding AG, RWE AG, and Prudential PLC. On the other hand, the bottom performers are Deutsche Bank AG,
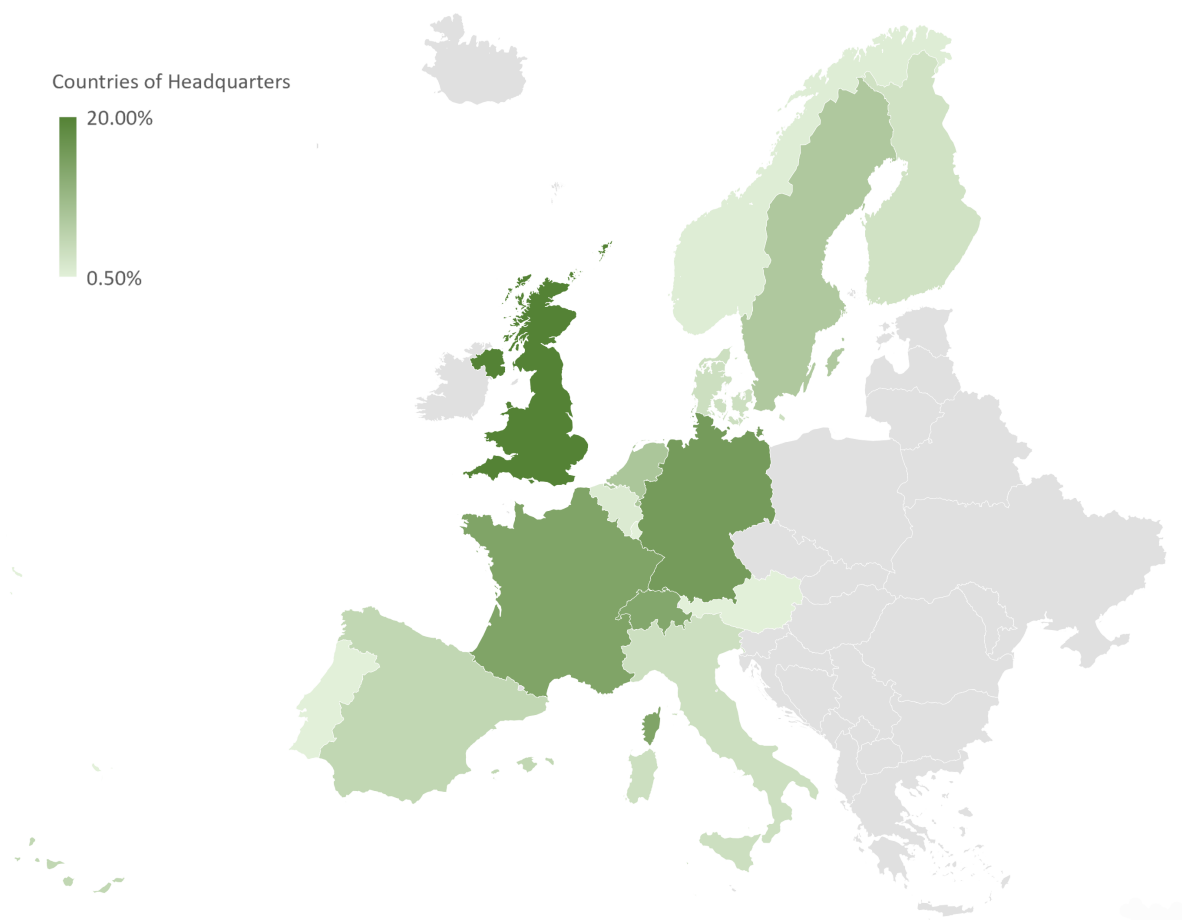
Figure 3.2: Stoxx Europe Large 200 Price Index companies' countries of headquarters, own elaboration (Data source: Refinitiv).

ASM International NV, Industria de Diseño Textil SA, Evolution AB, and Kingspan Group PLC.

Market Capitalization

Table 3.2 displays some key characteristics of the index under examination. On average, the market capitalization of the companies listed in the index is 54.121 billion euros. It is worth noting that there is a significant difference between the smallest company in terms of value (WPP PLC) and the largest company (LVMH Moet Hennessy Louis Vuitton SE), both quite distant from the average market capitalization.

	Market Cap (EUR Billions)
Index	10 616.495
Smallest	9.068
Largest	429.821
Average	54.121
Median	34.324

Table 3.2: Stoxx Europe Large 200 Price Index characteristics, own elaboration (Data source: Refinitiv). The USD/EUR conversion rate was last updated on April, 25, 13:57 UTC (1.07).

STOXX Europe Large 200 Price EUR
Periodicity A ▾ Flavor F12 ▾ View Growth ▾ Currency EUR ▾

Measure	Actual	F12 Est	Growth	Y+1 Est	Growth	Y+2 Est	Growth
1) Earnings Per Share	38.54	36.95	-4.12%	39.83	7.80%	42.65	7.06%
2) EPS before XO, Positive	35.00	35.07	0.22%	38.32	9.25%	41.21	7.56%
3) Cash Flow Per Share	53.29	57.57	8.03%	74.23	28.94%	73.71	-0.70%
4) Dividends Per Share	16.42	17.80	8.41%	18.81	5.65%	20.36	8.25%
5) Book Value Per Share	238.18	257.44	8.09%	277.18	7.67%	301.41	8.74%
6) Sales Per Share	325.17	333.60	2.59%	344.19	3.17%	355.69	3.34%
7) EBITDA Per Share	63.91	67.73	5.98%	72.84	7.54%	76.47	4.99%
8) Long Term Growth	0.00	3.19	0.00%	0.00	0.00%	0.00	0.00%
9) Net Debt Per Share	118.14	192.05	62.56%	185.28	-3.53%	181.10	-2.26%
10) Enterprise Value Per Share	637.03	711.17	11.64%	704.40	-0.95%	700.22	-0.59%

Figure 3.3: Stoxx Europe Large 200 Price Index's consensus overview (Data source: Bloomberg Terminal).

Financial analysis

Bloomberg provides some key metrics of the Stoxx Europe Large 200 Price Index (Figure 3.3), which offer insights into the performance of the index. This information can be valuable for investors, analysts, and company management to make informed decisions and assess the overall financial stability and growth potential.

Analysts are expecting growth in most measures, except for Net Debt per Share and Enterprise Value per Share, which are anticipated to decline compared to the F12 estimate[2]. This could indicate that companies belonging to this index are taking steps

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[2]The *Actual* value is "the trailing 12-month value for the index", while the *F12 Est* is "the methodology on which the estimate value is based either on a set of four Quarterly (current, next, third and fourth), two Semi-Annual (current and next), or next Annual Estimate values for each member, depending on availability" (Source: Bloomberg Terminal).

Figure 3.4: From 2019 to 2024, this image compares the daily price performance of Stoxx Europe Large 200 Price Index against Stoxx Europe Mid 200 Price Index and Stoxx Europe Small 200 Price Index (Source: Bloomberg Terminal).

to enhance their financial health and reduce their debt burden. To achieve this, they could resort to various strategies such as cost-cutting measures, debt restructuring, or aiming for higher revenues and profits. A decline in these ratios can be viewed as a positive indication of the company's financial stability and long-term growth potential.

Another interesting fact is that for the measure of Cash Flow per Share, analysts predict a sharp increase for the Y+1 Estimate[3], with a growth of 28.94%: this can be a positive sign for the index and its companies, reflecting improved financial performance, resource management, and growth potential.

Price performance comparison

It is interesting to compare the performance of the Stoxx Europe Large 200 Price Index's performance with other indices. In particular, I will concentrate on the comparison with: the Stoxx Europe 600 Price Index; and both the Stoxx Europe Mid 200 Price

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[3] *Y+1 Est* represents "the index-weighted average of the member estimates for the next year", while *Y+2 Est* represents "the index-weighted average of the member estimates for two years forward" (Source: Bloomberg Terminal).

Index and the Stoxx Europe Small 200 Price Index over the last five years. I have chosen to analyze this time window because it encompasses significant events, such as the COVID-19 pandemic, Russia's invasion of Ukraine, the stock market decline of the end of 2022, and the Israeli–Palestinian conflict in 2023.

Figure 3.4 shows a comparison of the performance of the indices that make up the Stoxx Europe 600 Price Index. Prior to the COVID-19 pandemic, these indices had quite similar performances, as the lines in the graph almost overlapped. However, between February 2020 and April 2022, the Stoxx Europe Small 200 Price Index (represented by the purple line) outperformed the other indices, with the Stoxx Europe Large 200 Price Index (represented by the white line) registering the worst performance of the three. This suggests that small-capitalization companies in the Stoxx Europe 600 Price Index were more resilient and better able to adapt to the pandemic. However, the situation changed later on, when the Stoxx Europe Large 200 Price Index started to perform better again, gaining strength after the 2022 stock market crash. From that period onward, the Stoxx Europe Large 200 Price Index consolidated its position, while mid-capitalization companies (represented by the orange line) recorded the worst performance.

Following the market crash in March 2020, we need to examine the market rates (that determine the performance of equity indices) to understand why small-cap firms over-performed or under-performed in comparison to large-cap firms. During 2020, we experienced a regime of rates below zero (looking, for example, at the German Bund - Figure 3.6), and an accommodating policy. In a low rate context, growth stocks tend to perform better. However, in March 2022, the Federal Reserve Bank (Fed) raised interest rates for the first time, and the restrictive policy phase began, resulting in a reversal of this dynamic.

It is worth noting that a similar reasoning can be done when comparing the Stoxx Europe Large 200 Price Index (represented by the white line) and the Stoxx Europe 600 Price Index (represented by the blue line) in Figure 3.5. For the first few years leading up to April 2022, the two lines almost overlap, except for the period between
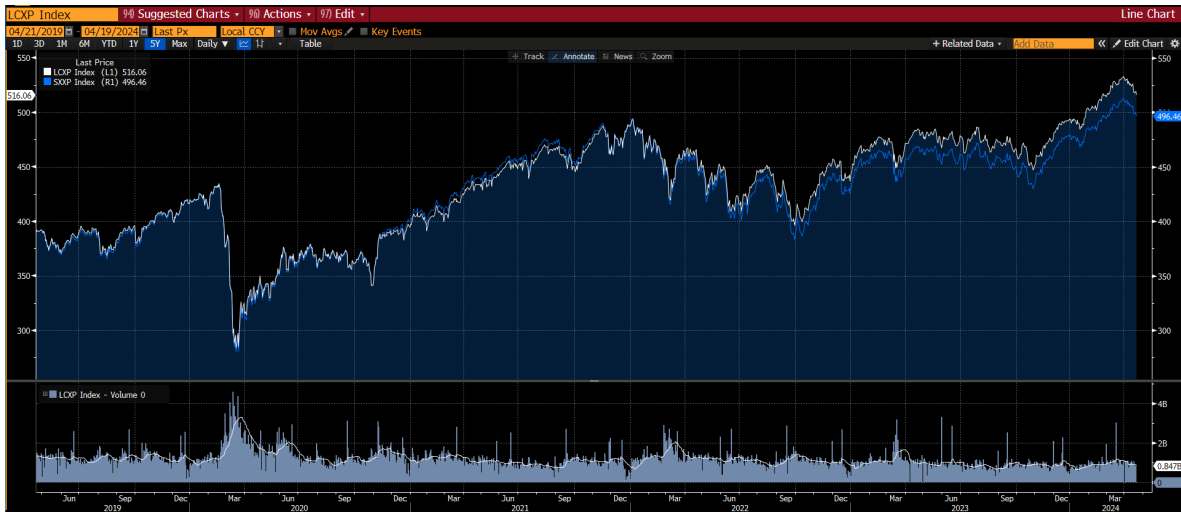
Figure 3.5: From 2019 to 2024, this image compares the daily price performance of Stoxx Europe Large 200 Price Index against Stoxx Europe Mid 600 Price Index (Source: Bloomberg Terminal).

October 2020 and December 2021, where the Stoxx Europe 600 Price Index slightly outperformed the other one. However, in the later years, the Stoxx Europe Large 200 Price Index performed better and continued to consolidate its position.

3.1.2 Reasons for choosing the Stoxx Europe Large 200 Price Index

I have decided to compare the ESG ratings of companies belonging to the Stoxx Europe Large 200 Price Index for my thesis because they are more likely to have established ESG ratings compared to mid-cap or small-cap companies. This means that data regarding ESG should be more readily available for my research. Furthermore, I selected an index of European companies because Europe has been placing a strong emphasis on sustainability and ESG investments for many years now, making it a fertile ground for studying ESG practices. Indeed, the data coverage for ESG ratings of large-cap companies is quite extensive for the providers I chose to include in my analysis:

- Refinitiv provides data on ESG Score, Environmental Pillar Score, Social Pillar Score, and Governance Pillar Score for 98.5% of firms (197 out of 200);
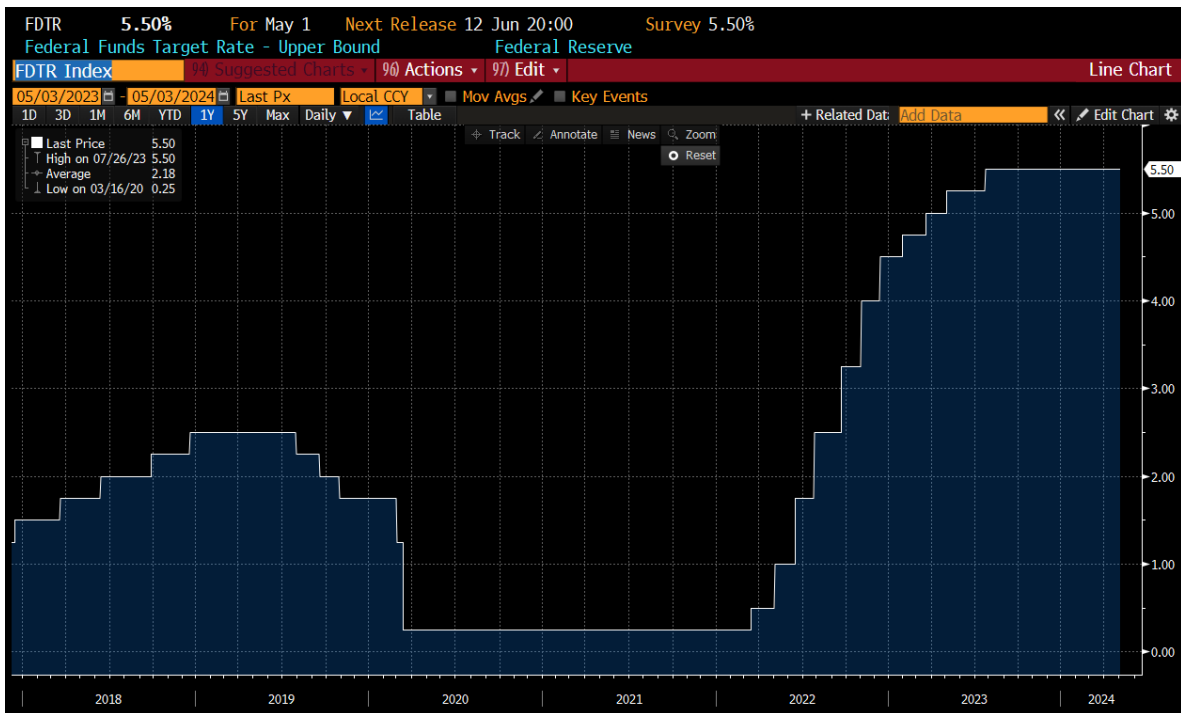
Figure 3.6: Federal Funds Target Rate - Upper Bound (Source: Bloomberg Terminal).

- Bloomberg offers data on ESG Percentile Score, Environmental Percentile Score, Social Percentile Score, and Governance Percentile Score for 98% of companies belonging to the index (196 out of 200);

- The S&P Global ESG Rank is available for 99.5% of companies (199 out of 200);

- Lastly, the Sustainalytics ESG Risk Score covers 99% of firms (198 out of 200).

Ownership peer analysis

Table 3.4 summarizes the ownership peer analysis of the Stoxx Europe Large 200 Price Index. Here are the definitions of the fields displayed in the columns:

- Equity Assets ($, M): Total value of equity holdings for an investor;

- Number Of Stocks Held: A composite field calculated by counting the number of stocks in which the investor has an existing position;

Countries of Headquarters	Number of firms	Percentage
United Kingdom	40	20.00
Germany	31	15.50
France	28	14.00
Switzerland	27	13.50
Netherlands	16	8.00
Sweden	15	7.50
Spain	10	5.00
Italy	7	3.50
Denmark	7	3.50
Finland	6	3.00
Ireland; Republic of	5	2.50
Belgium	3	1.50
Norway	2	1.00
Luxembourg	1	0.50
Austria	1	0.50
Portugal	1	0.50

Table 3.3: Stoxx Europe Large 200 Price Index Countries of Headquarters (Data source: Refinitiv).

- Investor Sub-Type: Investor Type Description (e.g., institutions, strategic entities, etc.);

- Country/Region: Investor's country.

It is evident that most of the investors are from European countries and mainly consist of investment advisors or hedge funds. Investment advisors are professionals who provide guidance and recommendations on investment decisions, managing large portfolios of assets. On the other hand, hedge funds are pooled investment funds that utilize various strategies to generate high returns for their investors. Their investment decisions and trading activities can significantly impact the index's composition and performance. Moreover, this fact may also indicate a higher level of active trading, speculative activity, and potentially increased volatility within the index. These types of investors are often more active and engaged in the market compared to retail or institutional investors with different investment strategies.
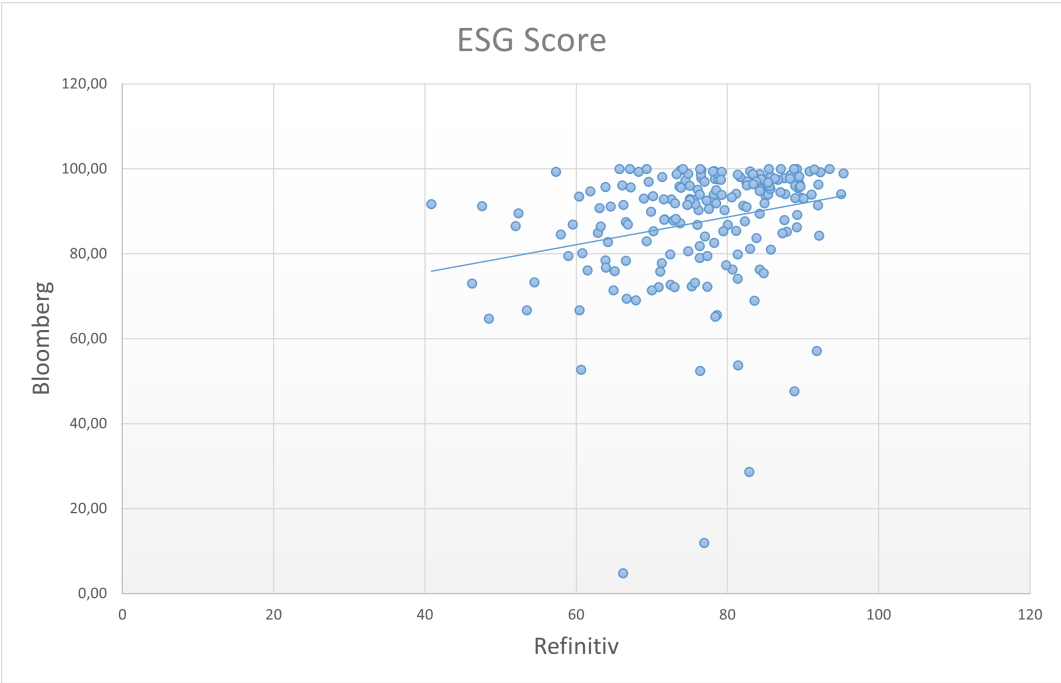
3.2 Bloomberg and Refinitiv

Bloomberg and Refinitiv evaluate companies according to their overall ESG score and the three pillars of the ESG paradigm, i.e., environmental, social, and governance factors. This approach enables us to analyze and compare the scores of different companies in each category, highlighting the dispersion of scores. These two providers define their scores differently, which adds to the comparison's interest. Here, I have included their score definitions.

3.2.1 Bloomberg's scores

The *BESG ESG Score Percentile* provides a ranking of a company's aggregated ESG performance within its peer group. This percentile ranking illustrates the percentage of scores that are lower than the company's ESG score. By comparing percentiles, users can evaluate the ESG performance of companies across different peer groups. The BESG ESG Score Percentile ranges from 0 to 100, with 100 being the best. Similarly, the *BESG Environmental Pillar Percentile*, *BESG Social Pillar Percentile*, and *BESG Governance Pillar Percentile* provide rankings for each of the ESG pillars. These percentiles allow for comparison of scores across companies within different peer groups and also range from 0 to 100, with 100 being the best.

3.2.2 Refinitiv's scores

Refinitiv *ESG Score* is a comprehensive rating of a company based on its performance in environmental, social, and corporate governance areas. The rating is based on self-reported information and measures a company's ability to act in the best interests of its long-term shareholders by implementing effective management practices and controls. The *Environmental Pillar score* evaluates a company's impact on the natural environment, including air, land, water, and complete ecosystems, by assessing its use of best management practices to avoid environmental risks and capitalize on opportunities.
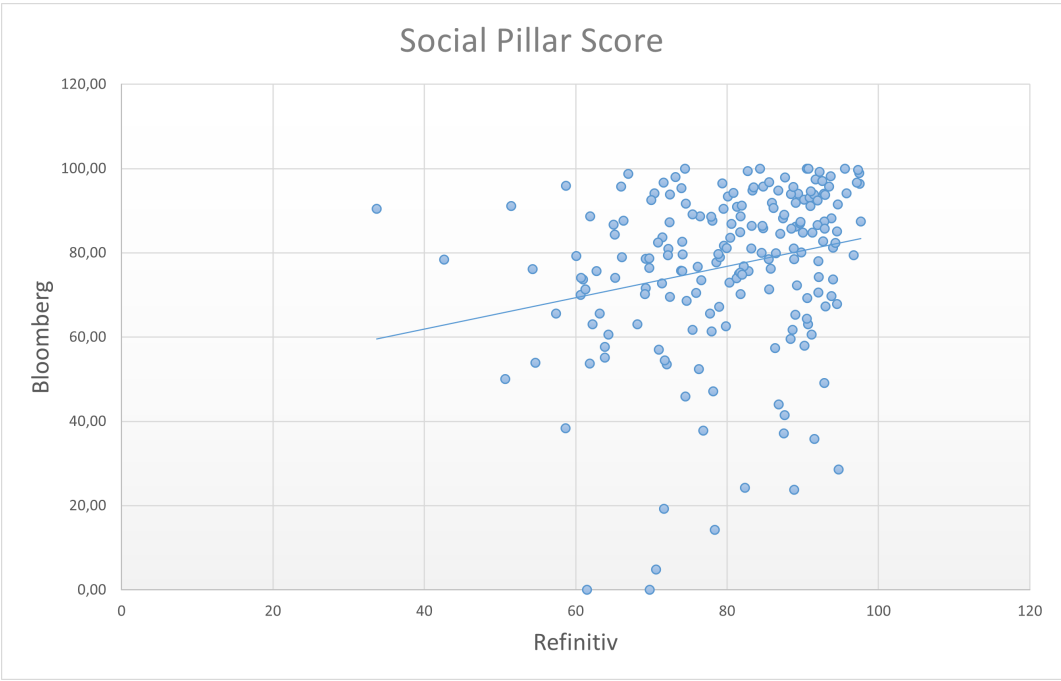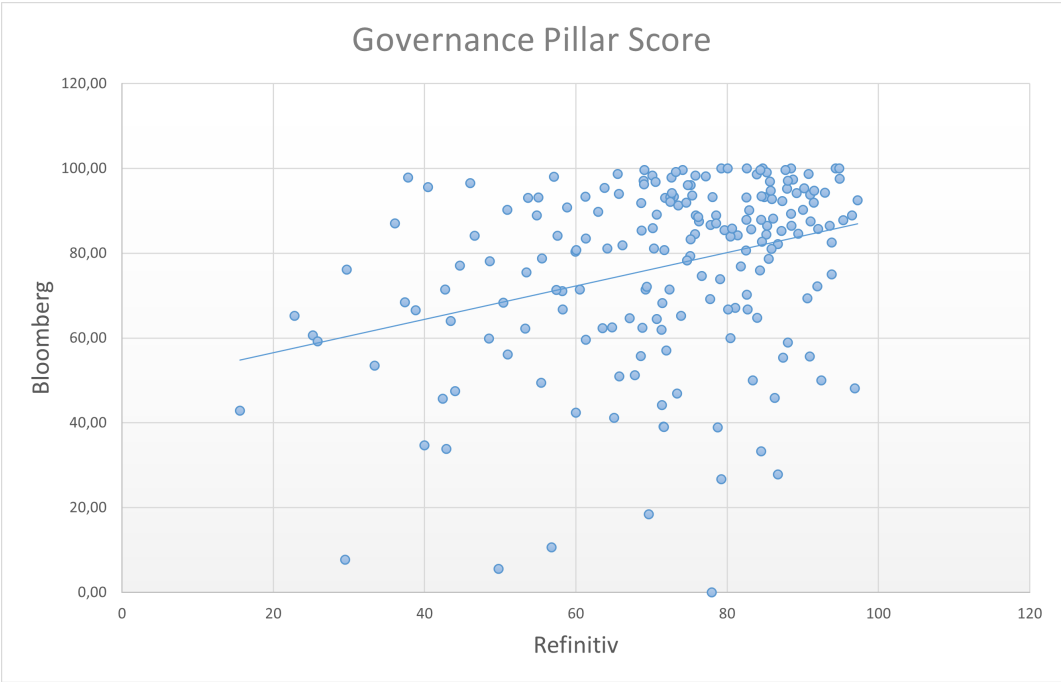
(a) ESG scores.
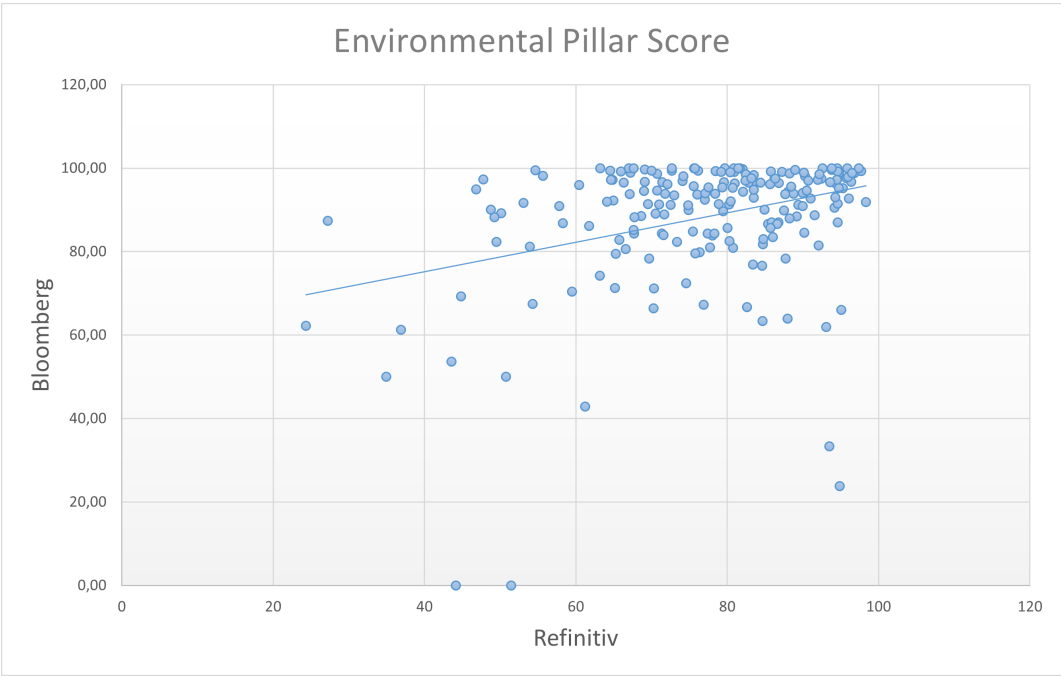
(b) Environmental Pillar scores.

Figure 3.7: Comparison between different scores of Refinitiv and Bloomberg. Own elaboration (Data Source: Refinitiv and Bloomberg).

(c) Social Pillar scores.

(d) Governance Pillar scores.

Figure 3.7: Comparison between different scores of Refinitiv and Bloomberg. Own elaboration (Data Source: Refinitiv and Bloomberg) (cont.).

The *Social Pillar score* evaluates a company's ability to build trust and loyalty with its workforce, customers, and society by using best management practices and maintaining a good reputation. The *corporate Governance Pillar score* evaluates a company's ability to manage its rights and responsibilities by creating incentives and checks and balances to generate long-term shareholder value.

3.2.3 Comparison between scores

Before discussing the scatter plot graphics, it is important to analyze some descriptive statistics, as shown in Table 3.7. By examining the measures of central tendency, we can observe that Bloomberg, on average, assigns higher scores than Refinitiv, with the exception of the Social Pillar score. Moreover, the median is slightly higher, compared to the mean value, for both Refinitiv and Bloomberg, which is due to the influence of some extreme outliers. Additionally, by looking at the measures of dispersion (standard deviation and sample variance), we can see that Refinitiv has the lowest standard deviation for ESG scores, indicating that individual units' values are close to the center of the distribution. On the other hand, Bloomberg scores have higher standard deviations compared to Refinitiv scores, with the Governance Pillar score showing the highest standard deviation. Looking at the measures of shape, we can gain some insight into the distribution of scores by considering skewness and kurtosis. Skewness is a measure of symmetry, or more precisely, the lack of symmetry of a distribution or data set. Kurtosis, on the other hand, is a measure of whether the data are heavy-tailed or light-tailed relative to a normal distribution. In other words, if these two indices are far from zero, it indicates that the distribution of the variable being analyzed is deviating significantly from a normal distribution. Generally speaking, the negative skewness of scores suggests a left-skewed distribution, meaning that more scores are concentrated on the higher end. We observe that Bloomberg scores exhibit higher values for kurtosis and lower values for skewness, compared to Refinitiv scores. This is particularly true for the ESG score and the Environmental Pillar score, which show the highest values

of kurtosis. We can also gain insight into the range of values in the sample by looking at the lowest and highest scores. In particular, we see that Refinitiv scores have a narrower range compared to Bloomberg scores: this point confirms what we have said about form measures of distribution.

Bloomberg and Refinitiv use the same scoring scale, which makes it interesting to analyze the distribution of scores on a scatter plot graph. Refinitiv scores are placed on the x-axis and Bloomberg scores on the y-axis. First, we have to observe the values of R-squared for each of the scatter plot graphs. R-squared is defined as a "statistical measure that determines the proportion of variance in the dependent variable that can be explained by the independent variable" [48]. In our case, the values of R-squared are the following:

- for the ESG score, $R^2 = 0.057$ (Figure 3.7a);

- for the Environmental Pillar score, $R^2 = 0.1104$ (Figure 3.7b);

- for the Social Pillar score, $R^2 = 0.0498$ (Figure 3.7c);

- for the Governance Pillar score, $R^2 = 0.1003$ (Figure 3.7d).

It is evident from the R-squared values that there is a very low correlation between the two scores. In particular, looking at some companies, there is a significant difference in the ratings provided by Refinitiv and Bloomberg for what concerns both their overall ESG score, and their individual pillar scores. Table 3.5 illustrates some examples of these substantial discrepancies: it is interesting to highlight that these variations can occur across multiple aspects of a company's performance, such as with Credit Agricole.

In addition, we can make further comments about the *percentage change between scores*: this value was calculated using the following formula:

$$\% \text{ Change} = \frac{\text{Bloomberg score} - \text{Refinitiv score}}{\text{Refinitiv score}}$$

Following this calculation, eight classes were established, each representing a range of percentage change: these clusters are displayed in Table 3.6. In an ideal scenario, we

would expect to see more companies in the initial classes, which are linked to a lower variation between scores, and a decreasing number of firms in those clusters associated with a greater divergence of ratings. This pattern is generally observed for both the total ESG score and the individual pillar scores: indeed, most companies can be found within a percentage variation range between 0% and 40%. This is a significantly positive outcome, especially considering that Bloomberg and Refinitiv construct their scores using very different methodologies. In particular, it seems that the ratings concerning social issues are most closely aligned between the two providers, as most companies fall into the top three categories. Nonetheless, we must also notice that for the single pillar scores, compared to the total ESG score, there is an increase in the number of companies in the last class, where the rating varies by more than 100%. This is especially true for the Governance score, which has the highest number of companies with a percentage change between scores exceeding 100%. Additionally, this pillar displays more homogeneous clusters, indicating that many companies have ratings that differ from each other by a percentage higher than 40%.

Coming back to the value of R-squared, we can notice that the Social Pillar score shows the greatest deviation, followed by the global ESG score. The deviation in the ESG score can be attributed to the different ways in which Bloomberg and Refinitiv aggregate the overall score, as illustrated in Figure 2.15 and Figure 2.17. On the other hand, the significant variation in the Social Pillar score could be due to differences in the methodology of score calculation.

It is worth noting that Bloomberg uses a similar methodology to create scores for the Environmental Pillar and the Social Pillar. Going by this approach, one would expect a low R-squared value for the Environmental scores as well: however, this is not the case. It is possible that the variance lies in the specific aspects that providers consider while calculating the Social score, in particular:

- Refinitiv takes into account: *Community*; *Human rights*; *Product responsibility* (Responsible marketing, Product quality, Data privacy); *Workforce* (Diversity

and inclusion, Career development and training, Working conditions, Health and safety) [1].

- Bloomberg includes: *Access & Affordability* (Access & Affordability Policy, Access & Affordability Practices); *Community Rights & Relations* (Community & Human Rights, Community Relations); *Customer Welfare* (Customer Education & Well Being, Customer Health & Safety); *Data Security & Customer Privacy* (Data Privacy & Content Management, Data Security); *Ethics & Compliance* (Business Ethics, Competitive Behavior, Legal & Regulatory Management); *Labor & Employment Practices* (Labor Actions, Labor Management, Organized Labor, Training, Workforce Diversity); *Marketing & Labeling* (Marketing Practices, Product Labeling); *Occupational Health & Safety Management* (Fatalities, Health & Safety Fines, Health & Safety Policies, Safety Incidents); *Operational Risk Management* (Operational Incidents, Operational Preparedness); *Product Quality Management* (Product Quality & Safety); *Social Supply Chain Management* (Supplier Social Compliance) [50].

It is worth noting that Bloomberg and Refinitiv use different criteria when calculating the Social Pillar score. Specifically, Bloomberg includes some factors such as Access & Affordability, Operational Risk Management, and Social Supply Chain Management, that Refinitiv does not consider. These differences in criteria could be the reason for the significant difference in ratings provided by the two agencies.

However, as we previously discussed in Section 2.2.5 when mentioning Berg *et al.*'s study, it is challenging to ascertain whether the discrepancy in scores is a result of scope divergence (due to providers employing a distinct set of attributes), measurement divergence (linked to providers evaluating the same characteristics using different criteria), or weight divergence (because rating agencies allocate varying levels of importance to different attributes), as the effects of these divergences are closely connected and intertwined.
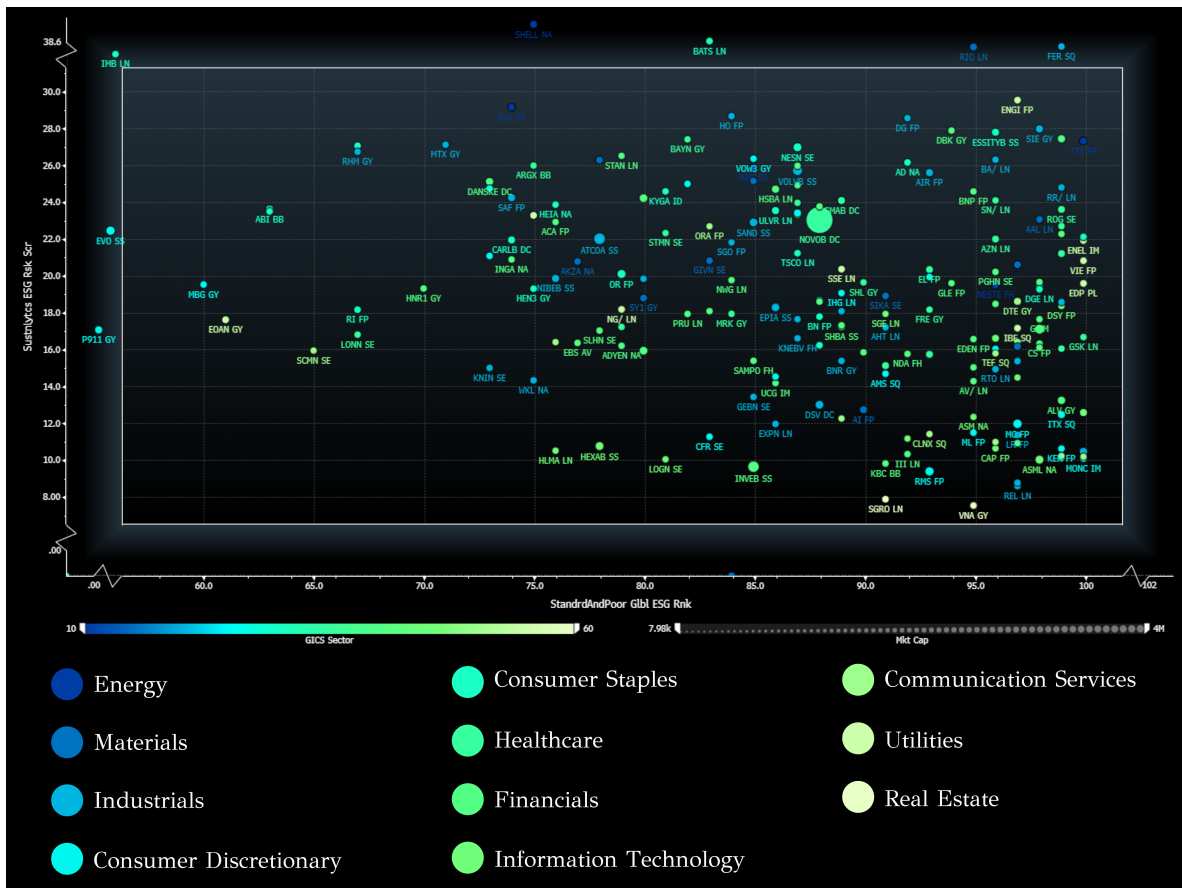
Figure 3.8: Comparison between the S&P Global ESG Rank and the Sustainalytics ESG Risk Score (Data source: Bloomberg Terminal).

3.3 S&P Global and Sustainalytics

The constructions of these two scores, as we saw in Chapter 2 of this thesis, follow very different methodologies. The Bloomberg Terminal provides the interpretation of each of these scores.

3.3.1 Sustainalytics' score

The *Sustainalytics (SA) ESG Risk Score* is the "company's overall score in the ESG Risk Rating. It applies the concept of risk decomposition to derive the level of unmanaged risk for a company, which is assigned to one of five risk categories. The score ranges from 0 and 100, with 0 indicating that risks have been fully managed (no unmanaged

ESG risks) and 100 indicating the highest level of unmanaged risk. It is calculated as the difference between a company's overall exposure score and its overall managed risk score, or alternatively by adding the Corporate Governance unmanaged risk score to the sum of the company's issue unmanaged risk scores".

3.3.2   S&P Global's score

The *S&P Global ESG Rank* is the "total sustainability percentile rank, converted from the Total Sustainability Score (TSS), based on the S&P Global ESG Rank (formerly RobecoSAM Corporate Sustainability Assessment). A company's TSS is the sum of all question scores and ranges from 0-100. The TSS is based on individual questions that roll up into criteria, which in turn roll up into three dimensions - Economic, Environmental and Social. The types and weights of individual questions and criteria are adjusted for each industry-specific questionnaire to reflect the materiality of specific sustainability themes within each industry. The TSS can be defined as follows:

$$\text{TSS} = \text{Number of Question points received} \times \text{Question Weight} \times \text{Criterion Weight}.$$

3.3.3   Comparison between scores

As we have done with Refinitiv and Bloomberg, we can analyze the descriptive statistics of S&P Global and Sustainalytics (Table 3.8). However, it is important to note that these providers use different scoring scales, which may limit the significance of our comparison. Nevertheless, we can observe that the median values for both datasets are close to their respective mean values, suggesting a relatively symmetrical distribution of scores. The standard deviation of S&P scores is higher than that of Sustainalytics, indicating greater variability in its ESG ratings. The positive kurtosis of S&P scores suggests a more peaked distribution with heavier tails compared to a normal distribution, while the kurtosis of Sustainalytics scores is closer to zero, suggesting a distribution shape that is closer to a normal one. The negative skewness of S&P scores

indicates a left-skewed distribution, while the positive skewness of Sustainalytics scores indicates a right-skewed distribution, with more scores concentrated on the lower end. Additionally, the range value of Sustainalytics is narrower compared to S&P, with every company in the sample being attributed with a high ESG risk severity.

The graph, as shown in Figure 3.8, presents the S&P Global ESG Rank on the x-axis and the Sustainalytics ESG Risk Score on the y-axis. The size of the marker corresponds to the market capitalization of firms in USD, while the marker colour represents the GICS Sector to which each firm of the index belongs. If scores are defined as we mentioned before, some kind of negative correlation is expected as a higher S&P Global ESG Rank indicates better performance in terms of ESG indicators, while a higher Sustainalytics ESG Risk score indicates worse performance in managing ESG risks. The correlation coefficient is a numerical representation of the degree of association between two variables in a linear regression. It ranges from -1 to 1, with a value of -1 signifying a strong negative correlation, where the values in one variable increase as those in the other decrease, and vice versa. A coefficient of 0 implies the absence of a linear relationship. A value of 1, on the other hand, denotes a strong positive correlation, characterized by a direct relationship between the variables. In this case, the correlation coefficient indicates a weak negative correlation (-0.3118), which is supported by the low R-squared value (0.0972). Even in this case, it is quite difficult to determine if this discrepancy is due to a scope divergence, a measurement divergence, or a weight divergence.

The evaluation of ESG rating providers reveals a substantial degree of methodological diversity, leading to considerable inconsistencies in the ESG ratings assigned to the same company. This observation underscores the intricate and subjective nature of ESG assessments and underscores the significance of comprehending the methodologies of various rating agencies. For stakeholders, possessing this knowledge is crucial when interpreting and comparing ESG scores. Moving forward, the necessity for greater transparency and standardization within the ESG rating sector becomes apparent, as it would improve the accuracy and reliability of these evaluations.

Investor Name	Equity Assets ($, M)	Number Of Stocks Held	Investor Sub-Type	Country/Region
BlackRock Institutional Trust Company, N.A.	3 535 125.66	199	Investment Advisor	United States
The Vanguard Group, Inc.	6 766 049.16	200	Investment Advisor/ Hedge Fund	United States
Norges Bank Investment Management (NBIM)	1 098 143.09	187	Sovereign Wealth Fund	Norway
Capital Research Global Investors	1 190 557.55	142	Investment Advisor	United States
Arnault Family	327 420.06	1	Other Insider Investor	France
BlackRock Investment Management (UK) Ltd.	571 903.04	200	Investment Advisor/ Hedge Fund	United Kingdom
Hermes Family	149 154.48	1	Other Insider Investor	France
BlackRock Advisors (UK) Limited	288 274.84	200	Investment Advisor/ Hedge Fund	United Kingdom
Bettencourt Meyers Family	92 362.58	1	Other Insider Investor	France
Amundi Asset Management, SAS	308 958.29	172	Investment Advisor/ Hedge Fund	France

Table 3.4: Stoxx Europe Large 200 Price Index's ownership peer analysis (Data source: Refinitiv).

| Score type | Firm | Provider | |
		Bloomberg	Refinitiv
ESG	Credit Agricole SA	4.80	66.17
	HSBC Holdings PLC	11.90	76.94
	Universal Music Group NV	91.70	40.85
Environmental Pillar	Bunzl plc	87.40	27.23
	Evolution AB	62.20	24.33
	Flutter Entertainment PLC	97.30	47.76
Social Pillar	Adyen NV	90.40	33.73
	Assa Abloy AB	0.00	61.47
	Credit Agricole SA	0.00	69.75
Governance Pillar	Credit Agricole SA	5.60	49.76
	Partners Group Holding AG	87.00	36.07
	Rio Tinto PLC	97.80	37.80

Table 3.5: Some examples of these large discrepancies between scores provided by Bloomberg and Refinitiv (Data source: Refinitiv and Bloomberg).

| Class of % change | Number of units | | | |
	ESG	ENV	SOC	GOV
0% - 10%	60	70	85	59
10% - 20%	51	37	48	38
20% - 30%	37	33	22	33
30% - 40%	24	20	18	16
40% - 50%	11	11	6	15
50% - 70%	6	11	6	13
70% - 100%	5	7	9	12
>100%	1	4	1	9

Table 3.6: Clusters of the percentage change between Bloomberg and Refinitiv scores and number of units associated to the global ESG score (ESG), the Environmental Pillar score (ENV), the Social Pillar score (SOC), and the Governance Pillar score (GOV). The total number of firms for each score may vary as some firms have both Refinitiv and Bloomberg scores, some have only one, and some have none (Data source: Refinitiv and Bloomberg).

Provider	Score type	Mean	Median	St. Dev.	Sample Var.	Kurtosis	Skewness	Range	Minimum	Maximum
Bloomberg	ESG	87.38	92.20	14.44	208.66	9.63	-2.59	95.20	4.80	100.00
	ENV	88.17	93.25	15.54	241.49	11.64	-2.95	100.00	0.00	100.00
	SOC	76.56	80.50	20.15	406.22	2.78	-1.56	100.00	0.00	100.00
	GOV	76.62	84.10	21.53	463.55	1.43	1.29	100.00	0.00	100.00
Refinitiv	ESG	76.87	78.10	10.42	108.59	0.46	-0.75	54.48	40.85	95.33
	ENV	77.24	79.68	14.61	213.38	0.97	-0.98	73.98	24.33	98.31
	SOC	80.28	81.92	11.82	139.80	0.61	-0.84	63.93	33.73	97.66
	GOV	71.94	74.81	16.94	286.80	0.51	-0.95	81.67	15.60	97.26

Table 3.7: Some descriptive statistics of Bloomberg and Refinitiv scores (Data source: Refinitiv and Bloomberg).

Provider	Mean	Median	St. Dev.	Sample Var.	Kurtosis	Skewness	Range	Minimum	Maximum
S&P Global	86.98	89.00	11.43	130.61	2.70	-1.35	67.00	33.00	100.00
Sustainalytics	19.51	18.89	6.23	38.78	0.18	0.46	31.00	7.56	38.56

Table 3.8: Some descriptive statistics of S&P Global and Sustainalytics scores (Data source: Bloomberg).

Conclusions

The evolution of the concept of stakeholder has highlighted the transformation of firms from solely economic entities to socially responsible organizations, recognizing the significance of sustainability in strategic decision-making. This shift has propelled the journey from Corporate Social Responsibility to Responsible Business Conduct, ultimately culminating in SRI and ESG investing. These developments emphasize the increasingly critical role of companies and investors in promoting sustainable practices within society. Sustainable finance emerged as a response to this paradigm shift, undergoing significant legislative developments over the past decade. Regulations in sustainable finance have focused on guiding firms towards better Environmental, Social, and Governance behaviors. Chapter 1 underlines the pivotal role of companies and investors in advancing a sustainable world. To safeguard investors and economic actors involved in sustainable finance, regulations must prioritize transparency, objectivity, and standardization. Despite notable progress since 2014, sustained efforts in these areas are crucial, particularly within the ESG investment framework. Initiatives like the Eurosif classification aim to categorize sustainable investments, emphasizing the concept of transition. This proactive approach is instrumental in guiding stakeholders towards clearer and more accessible sustainable investment opportunities, contributing to the transition towards sustainable finance and a more environment-friendly future.

However, the assessment of a company's sustainability is still a complex task for investors: Chapter 2 of this thesis emphasizes the importance of making well-informed decisions based on ESG factors, highlighting the crucial role of ESG rating agencies

in helping investors make wise choices. The market for ESG ratings presents both opportunities and challenges due to the lack of a common definition and standardization, which complicates investor decision-making. Despite consolidation efforts through organic growth, partnerships, and mergers, the market remains fragmented, with different types of providers offering varied services. The analysis of methodologies employed by prominent ESG rating providers - Refinitiv, Bloomberg, S&P Global, and Sustainalytics - reveals some common features, such as transparency, data accuracy, and industry-specific considerations. Nonetheless, significant differences persist in focus areas and scoring approaches among providers, complicating the creation of comprehensive and comprehensible assessments of a company's sustainability performance. The complexities surrounding ESG ratings - stemming from methodological disparities, data sources, and calculation principles - pose challenges for investors seeking clarity and standardization in sustainable investment decisions. Addressing these challenges is crucial to enhancing transparency, objectivity, and investor confidence within the evolving landscape of sustainable finance and ESG investing. According to a Capital Group's 2022 Environmental, Social, and Governance study, investors primarily focus on ESG funds' performance, scarcity of data, and greenwashing (Figure 3.9). The first two factors are interconnected, and more data is needed to determine the superiority of ESG funds over non-ESG funds. The companies' push for ESG practices to enhance their public image has made greenwashing a lingering concern. The absence of standardized rating systems aggravates the issue [52].

The disparities in ESG rating approaches are apparent from the examination conducted in Chapter 3, which evaluates the scores of the four providers mentioned above - Refinitiv, Bloomberg, S&P Global, and Sustainalytics - in pairs (specifically, Refinitiv vs. Bloomberg, and S&P Global vs. Sustainalytics). The examination focuses on the Stoxx Europe 200 Large Price Index, comprising a highly concentrated sample of firms representing diverse sectors and geographic regions. When comparing Bloomberg and Refinitiv scores across overall ESG and individual E, S, and G pillars, the weakest correlation is observed in the Social Pillar, likely due to the different factors consid-
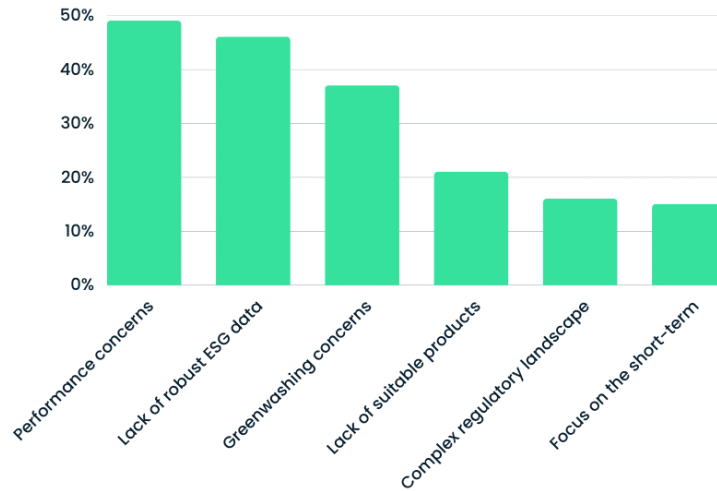
104

Figure 3.9: ESG adoption challenges, percentage of investors who agree (Source: Capital Group ESG Global Study 2022) [52].

ered by each provider. On the other hand, between S&P Global and Sustainalytics, a negative correlation is observed despite significant score variations. In both cases, it is difficult to determine whether the difference in scores is due to scope divergence (caused by providers using different sets of attributes), measurement divergence (resulting from providers using different criteria to evaluate the same characteristics), or weight divergence (due to rating agencies assigning different levels of importance to various attributes), as these discrepancies are closely connected and intertwined. This analysis highlights that ESG scores are not directly comparable or interchangeable, emphasizing the importance for investors to align with a methodology that reflects their sustainability values. Recognizing these methodological nuances is crucial for investors to make informed decisions aligned with their sustainability preferences.

Moving forward, it will be essential to standardize ESG rating methodologies and enhance transparency to promote consistency and reliability in sustainable investment practices. This will ensure that investors can effectively leverage ESG data to drive meaningful impact in advancing sustainability goals.

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